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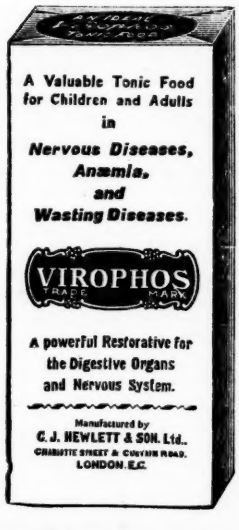
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WHAT DID JOHN HUNTER DO FOR MEDICINE?

BEING THE CENTENARY LECTURE TO THE HUNTERIAN SOCIETY ON OCTOBER 8TH, 1919,*

BY

ARTHUR KEITH, F.R.S.,

HUNTERIAN PROFESSOR AND CONSERVATOR OF MUSEUM, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

WHEN we are asked what Harvey, Pasteur, Lister, Jenner, Charles Bell, Marshall Hall, or Robert Koch did for Medicine we can give a definite answer: each of them opened a gate which led into a new field of medical knowledge; each one of them is labelled and distinguished by his great discovery. But how are we to label the patron saint of this society—John Hunter? He died as the medical schools of London commenced their winter session, October 16th, 1793, aged 65, and during the 126 years which have elapsed since then his admirers and his critics have been discussing his claims to our Medical Valhalla, and the proper inscription to place over the chair which has there been assigned to him. "Whenever I have asked," wrote his contemporary and critic, Jesse Foot, "what advances your preceptor has made in surgery or in anatomical discoveries of any value, I have never found one of you capable of fixing and dwelling upon anything."[1]

Let us look for a moment at the answers which Hunterian orators have given to Jesse Foot's question to see if we can find a concise definition of what Hunter did for medicine. We find him defined as "the High Chancellor of the art of healing" (Carlisle, 1820); "the greatest physiologist which the world has yet seen" (Norris, 1817); the "expositor of the nature of disease" (Abernethy, 1819); "among all surgeons of all times the most renowned" (Paget, 1877); in scientific zoology there is no one between Aristotle and John Hunter (J. Hutchinson, 1891); he "remodelled the fabric of knowledge" (Buckle, 1861); he showed how to get by strategy what was formerly obtained by force (Ed. Stanley, 1839); he established a well of biology (Gulliver, 1863); he rationalized pathology and surgery (Hodgson, 1855); "his writings are the greatest and most valuable repository of fact and thought in surgery" (Humphry, 1879); "I would not part with the least of his works for cartloads of scholastic erudition" (Lawrence, 1834); "as a man of natural genius he resembled Shakespeare more than any other man" (Stafford, 1851); he takes a place with "Harvey, Sydenham, Bacon, Locke, and Newton" (Lawrence, 1834); "Newton is the only comparison possible" as a man of science, but as a surgeon "he ranks below Wiseman, Pott, Sharpe, and Scarpa" (Brodie, 1837); Pott improved surgery; Hunter revolutionized it (Lawrence, 1834). These are great and glowing tributes to Hunter's genius, but not one of them gives a clear and concise answer to Jesse Foot's pertinent question: What definite contribution did John Hunter make to our power to heal the human body?

When we turn to the authoritative edition of his works—Palmer's edition published in 1837—we find the various editors almost in an apologetic mood as regards Hunter's claims to be a discoverer in their particular section of surgical or biological knowledge. Thomas Bell, F.R.S., Lecturer in Comparative Anatomy at Guy's Hospital, introduces Hunter's *Treatise on the Natural History and Diseases of the Human Teeth* with the remark that it is "the least felicitous effort of this extraordinary genius, and that of which the errors are most obvious and striking"; while Dr. George Babington, in his preface to Hunter's *Treatise on the Venereal Disease*, frankly states that "the reputation of John Hunter rests more on his other works than this." In the opinion of the late Sir Jonathan Hutchinson, who, like Dr. Babington, served as president of the Hunterian Society, Hunter's venereal work was behind the treatises of his own time. Even the *Treatise on the Blood, Inflammation and Gunshot Wounds* was found by Palmer to require heavy annotation. The surgeons, we find, base Hunter's claims to fame on his discoveries in biology, but when we turn to the introduction which Sir Richard Owen wrote to Hunter's *Observations on Certain Parts of the Animal Economy* we find him, while giving Hunter credit for extraordinary powers of industry and penetration, claiming a place for him as a zoological discoverer on a few minor points in comparative anatomy and referring to his work on blood and inflammation as the just basis of his fame. Even regarding the great museum he built up there was at one time a difference of opinion. "Had I thought," wrote Sir Joseph Banks, President of the Royal Society and an intimate friend of Hunter, "my friend John Hunter's collection an object of importance to the general study of natural history, or indeed to any branch of science except that of medicine, I hope that two years would not have elapsed without my having taken an active part in recommending to the public the measure of purchasing it." Hunter's commentators and editors fail to give us the definition of which we are in search.

What, then, was John Hunter's great service to Medicine and Surgery? If I had to inscribe the tag attached to the coat lapel of the shade of John Hunter as it applied for entrance to the Valhalla of the great medical dead, I would write: "This is the man who discovered that every measure to further healing and to preserve health and life must be based on an accurate knowledge of the vital processes of living flesh." He was the first to realize that the surgeon, physician, zoologist, botanist, anthropologist, embryologist, palaeontologist, and psychologist, were empirics or quacks, every one of them, and would remain mere opportunists until they knew the conditions and laws under which vital actions were maintained and regulated. Hunter was the first to found the practice of the surgeon on the actions and reactions of living matter. He was a surgeon of a new kind—a "vitalistic" surgeon; it is a realization of that fact which gives us a sure clue to all he did and thought; to all he taught and wrote. He grasped as a fundamental fact that living matter was akin in all its forms; he found that the study of the hydra or "polypus" could throw a flood of light on the more complex manifestations of life in the human body. All living matter, he found, was endowed with the power of mending a breach in its substance and of throwing off disease. He had the audacity to believe that he could, by the application of special methods, wring the secrets of life from living bodies, and that by studying closely the manner in which Nature effected her cures in the human body, he could steal her secrets and apply her methods. From his arrival in London in September, 1748, until his death in October, 1793—forty-five years all told—he dogged the footsteps of Nature day after day, spying out her mysteries and gathering in his museum every specimen which threw light on the conditions and laws of growth and repair. It is when we compare what he did and what he thought with the deeds and thoughts of the medical men with whom he has been compared that we are forced to place Hunter in the same unique position in Medicine as that assigned to Shakespeare in Literature. The gates which Harvey, Pasteur, Lister, and Koch pushed open led to wide and important fields of new knowledge, but it was on the gate of life itself that Hunter brought his battery to bear.

There is no part of the human or animal body on which Hunter did not throw a new light, and of which he failed to give an improved interpretation; there is no page of his voluminous works that does not teem with facts which are of use for modern application; there is not one of his 10,000 specimens which, when seen with Hunter's eye, does not reveal one of Nature's many-sided operations. We can but cull a sample or two from his riches to illustrate the methods by which he made his discoveries, and the manner in which he sought to give surgeons a rational basis for their art. If Hunter were to return to life, nothing, I believe, would grieve him so much as the fact that tying the femoral artery where its coats are sound for the treatment of popliteal aneurysm is counted one of his major contributions to surgery. That operation was merely a side issue in a great chain of discoveries that revealed the nature of the vascular system. Hunter was the first to discover the mechanism of arteries. He demonstrated that they had an inherent and independent

* The Hunterian Society was founded by medical practitioners in the eastern part of the City of London, February 3rd, 1819, its first meeting being held in the London Orphan Asylum, St. Mary Axe, April 21st, 1819. Sir William Blizard, Surgeon to the London Hospital, was chosen as first President. He was one of Hunter's most distinguished disciples; it was he that proposed the name "Hunterian" for the society. It has been the custom, from the inception of the society, to elect the conservator of the museum of the Royal College of Surgeons as an honorary Fellow.

life and action; he showed that the muscular coats of the umbilical artery were still alive forty-eight hours after the cord had been separated from child and mother; he discovered that the elastic coat of arteries was the antagonist or opponent of the muscular coat, and that the outer fibrous coat was the safeguard of both from over-distension. He showed that the small arteries were the more muscular by studying the *post-mortem* changes in the uterus of the cow; he exposed the tibial artery of a dog, and showed that, when stimulated, its muscular coat could act as completely in regulating the flow of blood as a stopcock. He knew nothing of vasomotor nerves, but he was fully aware that the distribution of blood in the body was regulated by the muscular coats of the artery. He spoke of the living and sensitive principle of arteries. He exposed and cut the femoral artery of a living boar, and watched how its open and free proximal end became closed by a plug of blood clot. He exposed the carotid artery of a dog, and tried, unsuccessfully, to produce an aneurysm by weakening its outer coats.

He tied the femoral artery for popliteal aneurysm in his first case in December, 1785. In the summer of that year he had been studying the most remarkable manifestation of bone formation and bone necrosis to be seen in the whole realm of Nature—the growth and shedding of antlers in deer. Hunter has left us no exact record of these experiments; they were probably amongst the papers burned by Everard Home, but we can easily guess why he tied the carotid artery of the stag. He wished, no doubt, to see if he could thereby produce a necrosis of the antler. The velvet of the antlers became bloodless and cold; in a week's time they had again become warm. His attention was naturally switched from the problems of bone growth to that of collateral circulation. Had he known less of the nature of arteries than he did, had he looked upon them as the great Stephen Hales had done—as mere passive pipes of a hydraulic machine—he would probably have concluded, as most surgeons still do, that the pressure of the blood had forced the minute collateral channels open. He knew that the muscular coats were regulated by his mechanism of sympathy, for which Claude Bernard, sixty years later, substituted a vasomotor mechanism; he knew that when antlers commenced to grow there was a mechanism by which they could call upon the arteries of the neck, leading to a vascular enlargement and an increased supply of blood to the head. He saw that when the carotid arteries were tied the antlers and other parts cut off by ligature of the main artery could again call on their "sympathetic" mechanism and bring about a complete structural alteration in the collateral blood channels. It was an easy step from this observation to the realization that if the main artery of a limb were tied the parts beyond the site of the ligature would bring into play the mechanism which secured a blood supply for them. Hunter's ligature of the femoral artery for popliteal aneurysm was but a minor issue of a great discovery—namely, that Nature has provided every part of a living body with a mechanism which secures a sustenance when the main blood channel has been blocked. No doubt this vascular provision is part of the great vasomotor mechanism of the body, but so far as our knowledge of its exact nature is concerned, it stands to-day just where Hunter left it.

One familiar with Hunter's works and specimens could produce from them scores of discoveries of equal or even of greater importance than the one just cited. His aim was to give surgeons a basis of definite fact to guide them in the application of curative measures to the human body. When we inquire how it has come about that such a wealth of discovery has been neglected or overlooked we find that Hunter himself supplies us with the first reason. "I have used," he said in his lectures, "the word *consciousness* because we have no language existing answerable to all my views of the animal economy, and to coin words would not answer the purpose, because then I must have a dictionary of my own. I have not a word for expressing the cause of those actions which take place in the body, as if it was conscious that such and such things are going to take place. There are actions in the body which come nearest to consciousness of the mind of anything that I can conceive, and therefore I make use of this word; but it is commonly applied by philosophers only to the mind." The truth is that Hunter not only used *consciousness* in his own particular sense (with a meaning which, in modern language, we may translate as *reflex* in many of his instances)—but he also wrested many other words from their original or recognized meanings and used them for the designation of phenomena which he was the first to observe and explain. There is a second reason for the general neglect of Hunter's writings. Since his time the terminology applied to the microscopic machinery which carries on the functions of the body in health and in disease has been completely altered. Hunter knew nothing of neurons, ions, cells, or reflexes; all to him were particles of living matter and sympathies. For him arteries were bone builders; the open mouths of lymphatics were bone modellers. But such conceptions did not hinder him from unravelling all the laws relating to the behaviour of living bone under all conditions of health and disease. The discovery of bone cells, instead of relegating Hunter's observations to mere history, won for them, or ought to have won for them, a more general recognition of their truth and importance. Leaving on one side Harvey's demonstration of the circulation of the blood, there has been no great truth so completely demonstrated by observation and experiment as Hunter's law relating to bone absorption and bone modelling. To account for all the phenomena of the remodelling processes seen in living bones he had to resort to his particular use of the word *consciousness*, and even at the present day we still await for someone to coin a word which will express the sensitive manner in which bone cells react to the functional forces and stresses which are brought to bear on them in the daily routine of life. It is not only that Hunter has his own technical terms and that a new microscopic machinery has replaced the one employed by him, which has reduced the number of Hunter's students to a mere handful; his neglect is also owing to two further circumstances. He has packed his observations so closely together in his printed page that their study needs the closest attention; and further, it is only on the rarest occasions that he condescends to show how his facts are to be brought to bear in practice.

There can be no greater mistake than to suppose that the discovery of micro-organisms, phagocytes, toxins and antitoxins, and all forms of serum-therapy, have placed Hunter's writings out of date. No discovery made in the present or in the future can do that. His "morbid poisons" become micro-organisms in our modern parlance; the manifestations to which he applied the term "sympathies" have to be translated as toxin-effects, or in some cases as hormone-effects. Whatever may be the underlying machinery, the phenomena he observed and described are the manifestations of living matter reacting to disease, and will be seen and recognized by medical men so long as life continues.

Perhaps his chief contribution to the art of healing was a full and clear recognition of the mechanism with which Nature has endowed living things to effect repair and to resist or overcome disease. He saw that the chief curative means in Nature's armamentarium was inflammation, and therefore to the manifold manifestation of that process he applied his sharpest powers of observation and discrimination. "Nature resorts to vascularity if she has work to do," he said. He did not suppose that vascular changes constituted the essential phenomenon of inflammation; he conceived that a non-vascular tissue could show inflammatory reactions. His recognition of the nature of inflammation was based on the results of experiments carried out to reveal the true nature of vital processes. He was the first to perceive that the thermometer (the exact measurement of the heat production and heat regulation) was the most reliable instrument for the investigation of living processes. The crucial tests as to whether matter was living or not was the manner in which it reacted to cold and to putrefaction. He designed scores of experiments for testing the reaction of living matter to cold, and assured himself that life depended on a chemical "decomposition" and "combination," which in modern language would be translated as "katabolic" and "anabolic" changes. If I had to design armorial bearings for Hunter, a thermometer—such as he got Ramsden to design for him—should be the most prominent figure on his escutcheon. It was the instrument by which he sought to prod the secrets of living matter. Nothing is more characteristic of Hunter than that while using the thermometer to measure the manifestations of life in beast and tree he never sought to apply it to

estimate the degree of fever in his patients. He had a real aversion to the practical application of discovery. Twenty years after his death medical men began to use the thermometer for clinical purposes.

Some day I hope to deal with Hunter's unique position in the world of biologists and with the discoveries he made in anatomy, physiology, anthropology, botany, and geology. As a biological philosopher he is by far the greatest our country or any country has yet produced. His day is not yet come. In the meantime my chief object is to congratulate this Society on its fortunate title and to try to tempt young men who have to bear the burden of medical progress in the future to look into the riches which Hunter has bequeathed to posterity.

REFERENCE.

[1] *Dialogues between a Pupil of the late John Hunter and Jesse Foot.* London, 1795.

SURGICAL TRAINING:

*REMINISCENCES AND SUGGESTIONS.**

BY

SIR HAROLD J. STILES, K.B.E., M.B., C.M.EDIN., F.R.C.S.EDIN.,

REGIUS PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF EDINBURGH.

REMINISCENCES.

THE man who first inspired me with enthusiasm for surgery was my grandfather, Thomas Stiles, who was born in the village of Pinchbeck in the Fens of Lincolnshire, in 1798—one year before Syme. He practised there for over fifty years, and died in his 97th year, seven years after I had taken my degree. I can claim, therefore, that from my close association with him, and the many conversations I had with him about his own life and his own teachers, I possess almost first-hand knowledge of surgery and general practice as it existed a century ago.

It was Sir Astley Cooper who inspired my grandfather with his enthusiasm for anatomy and surgery, just as it was Syme who inspired Lister. Cooper and Syme were alike in that they were the foremost surgeons of their generation. Both men were great teachers, and both had the priceless gift of inspiring their pupils with a love and enthusiasm for their work. Both were equally beloved and revered by their students.

It may at first appear to be a piece of presumption on my part to speak of a humble village surgeon in the same breath with such great men as Syme and the immortal Lister. My excuse, however, is twofold: first, that a century ago the means of transit were such that every country doctor who lived, as my grandfather did, miles from assistance, had to be his own surgeon; and, secondly—and this is just as true to-day—there are, and always have been, men doing general practice in the country who, owing to force of circumstances, have been unable to specialize. It is surely only natural that some of these men—and I personally know more than one—might have been—well, perhaps not exactly Listers, but at any rate ordinary professors of surgery had they had the same opportunities that I and some of my colleagues have had.

[Sir Harold Stiles then made a number of quotations from an autobiography written by his grandfather, illustrating the admiration felt for Cooper, and said that all who had studied the life of Lister knew that Syme had the same gift of inspiring his pupils. The operations Mr. Thomas Stiles recorded in his autobiography showed that he was no mean surgeon; in 1830 he successfully performed the operation of perineal lithotomy, and later entered notes of an operation of special interest:

> Amputation of a very large malignant breast (Mrs. W.). Glands in the axilla also enlarged. Put a ligature around the base and removed them. Perfect recovery. Health good for nearly two years; then died of cancer in the pelvis.

Sir Harold Stiles compared this brief and matter-of-fact statement with a quotation from Sir Rickman Godlee's *Life of Lister*, giving an account of Lister's pioneer work on the operative treatment of carcinoma of the breast:

> The first large radical operation planned on anatomical principles was that performed by Lister in 1867—twenty-one years later. This patient, a relation of his own, was found to have such an extensive carcinoma that no surgeon would touch it, and she was thinking of handing herself over to a quack.
>
> Though he must often have followed the policy of despair and left poor women thus affected to their fate, yet, when the question was thus forcibly brought home to him, Lister made up his mind that the employment of antiseptics would justify a bolder course. But, as the operation was a new and dangerous one, he could not possibly entrust it to another man, even if he could have found a surgeon willing to undertake it. He had accordingly the double anxiety of performing it for the first time on a member of his own family. After it was over he wrote: "The disease is, I believe, all cleared out, the armpit as well as the breast. I explored the former in my proposed manner and found the proceeding very satisfactory, involving but slight additional wound of the skin, and yet affording free access to the region."

Turning then to his own career, Sir Harold Stiles said that under the inspiration of his father, Dr. Henry Stiles, he determined to be a surgeon, and when he went up to Edinburgh in May, 1879, he had gained an elementary knowledge of anatomy by the study of osteology and dissection of the fetus. He then proceeded to enlarge on the importance of a knowledge of anatomy to a surgeon.]

In those days (he continued) we spent three years at anatomy, and during that time I almost dissected the whole body twice. I am afraid my distinguished colleague, the Professor of Physiology, would say I spent far too much time over anatomy. I venture, however, to differ from him. Professor Schafer's contention is that physiology is the pivotal science around which all the medical sciences are centred, and that it furnishes a basis on which the whole of medicine and surgery is founded. While I do not wish in any way to belittle the fundamental importance of physiology, I maintain that anatomy is, and always must be, the most basic of all the medical sciences. Professor Schafer goes so far as to say that "most of the time which the student gives to dissection is—to make no bones about it—wasted." Personally, I hope that the "fiat of the General Medical Council which prescribes that every student shall dissect the whole of the body in the course of his anatomical training" will be adhered to. Despite my devotion to anatomy, I am convinced that I did not spend one day too much in its practical study. I quite agree that physiology has now become an essential part of the training of the present-day surgeon, because surgery has now become as much a science as an art. For this reason I should welcome a class on surgical physiology run on parallel lines to the class on surgical anatomy.

With regard to the position of anatomy in the curriculum, it is evident that something will have to be done to keep this fundamental subject alive in the student's mind after he has passed his second professional examination. While this can be done to a certain extent by means of classes on applied anatomy, it is my opinion that the clinical teacher should take full advantage of his excellent opportunities for teaching anatomy on the living subject, both in the wards and in the operating theatre. With regard to surgical applied anatomy, I am convinced it should be taught in the anatomical department by a practising surgeon who has been a demonstrator of anatomy. If the class were made compulsory, as it certainly ought to be, and if the teachers of clinical surgery were careful to describe and review all their operations from the anatomical point of view, then I am at one with those of my colleagues who would do away with the present classes of operative surgery. A reform such as this would do much to keep up and augment the student's knowledge of practical anatomy; moreover, it would convert what many students regard as a dry, burdensome subject into one full of life and interest.

The extension of the medical curriculum to five years was a great advance in medical education, but the full benefits of the additional year will not be realized until further modifications in the methods and arrangement of teaching have been devised. Time does not allow me to pursue this matter in detail, but I will make brief reference to systematic lectures, which have justly brought fame and renown to this school. In former days, when textbooks were few and incomplete, these lectures necessarily occupied a large place in the time table; but now that textbooks have reached such a high standard of completeness and excellence I venture to think that some of the time expended on systematic lecturing could be usefully transferred to practical demonstrations in ward and laboratory. In the rearrangement of the curriculum I doubt the wisdom of the student commencing hospital

* An inaugural address on his appointment as Regius Professor.

work during his first year. While the short time which could be put at his disposal for this purpose would be insufficient to benefit his education, it would be long enough to divert him from the prosaic, though basic, studies (the thorough prosecution of which is essential to his future efficiency) to the more alluring life of the hospital.

I did all my surgical work in the wards under the charge of Professor Chiene, whose strong and kindly individuality and great personal interest in the welfare of the student greatly appealed to me. I am glad to have this opportunity of stating that it is to his example and encouragement and to the training received under him that I owe my presence here to-day as Regius Professor of Clinical Surgery. Professor Chiene was a zealous disciple of Lister. I was fortunate in obtaining under him the important office, first of "spray clerk" and later of "instrument clerk," so that I obtained a good view of all his operations. There is no more interesting subject in the whole history of surgery than that which centres round the introduction and abandonment of the spray. The spray clerk was the policeman at the operations, his duty being to see that neither the operator himself nor any of the assistants were allowed to intervene between the spray and the wound. Hence I have always blessed the spray for having given me such a splendid introduction to the details of operative surgery.

As I intended to take five years to my undergraduate studies I was able to devote a large part of my fourth and fifth years to hospital work—the fourth in the surgical wards and the fifth in the medical wards. For the benefit of the students of the present day let me add that I worked in the wards on several evenings of each week—a custom which I regret to hear is now the exception rather than the rule. I shall do my utmost to revive it. When I was a student the curriculum was not so crowded as it now is, and one of the advantages of taking an extra year was that one could spend most of the extra time at clinical work.

Professor Chiene had been a demonstrator of anatomy under Goodsir, and it may be truly said that he was the greatest teacher of surgical anatomy in Edinburgh. I fancy it was my own enthusiasm for anatomy which appealed to my chief and prompted him to make me his house-surgeon and afterwards his university assistant. As his house-surgeon I had an opportunity of seeing him put into practice those principles of surgery which he so ably and graphically instilled into us in his systematic lectures. If I were asked what impressed me most about his work as a practical surgeon I should say it was his surgical judgement.

POST-GRADUATE TRAINING.

After I had completed my house-surgeonship I spent the next two years as a demonstrator of anatomy under Sir William Turner. Although I had already given much attention to anatomy, I felt that the teaching of anatomy and more dissecting-room work would be the best training for what the late Professor Annandale used to call an "operating surgeon." My advice to my house-surgeons who intend to make surgery their life-work is to return to the dissecting-room for a year. They will then be able to view and study anatomy through surgical spectacles, and they will find that by adopting this advice they will save themselves much anxiety.

Here again I wish to pay still further acknowledgement and tribute to my old master, Professor Chiene. To him the Edinburgh school is indebted for organizing, equipping and staffing a department of surgical pathology in connexion with the chair of systematic surgery. He may be said to have been the founder of an Edinburgh school of surgical pathology, and the work that he initiated has been still further developed by my colleague, Professor Alexis Thomson (and his assistants); as a young man he was an assistant in the pathological department under the late Professor Greenfield, and is recognized as one of our leading authorities in surgical pathology.

During the nine years that I was university assistant to Professor Chiene, besides teaching surgical anatomy, practical surgery, and surgical pathology, I had charge of the morbid anatomy department of the surgical laboratory. It was my duty to examine and report upon all the pathological material derived from Professor Chiene's wards. It was at this period that what was called the "Naples" method of embedding early embryos in melted paraffin was introduced by embryologists. Fortunately a lectureship on embryology had shortly before been instituted in connexion with the chair of zoology, and I spent two hours a day for the next three months in the embryological laboratory, working at the development of the mamma under the late Mr. George Brook, the then lecturer on embryology. Having acquired a good knowledge of Mr. Brook's methods I began to apply them in the surgical laboratory, and very soon came to use no other method. In 1890 I gave a microscopical demonstration of sections prepared by the paraffin method, illustrative of the morbid anatomy of various surgical conditions. I mention this because the surgical laboratory of this university can claim to have been the first pathological laboratory in this country to use the paraffin method. It was mainly by the adoption of this technique that I was able to carry out my investigations on the histology and mode of dissemination of carcinoma of the mamma. These investigations, along with those of Heidenhain, laid the foundation for the radical treatment which is now employed in dealing with malignant disease of the mamma.

In the summer and autumn of 1893 the university granted me leave of absence to study under the late Professor Kocher of Berne, whose operating impressed me quite as much as his rigid aseptic technique. He was the most progressive surgeon of his generation. He was then doing operations for goitre by the hundred, and he was one of the most successful pioneers in abdominal surgery, as well as in the surgery of the extremities. The secret of Kocher's great success as an operator, apart from his aseptic technique, was that his operations were planned and carried out on strictly anatomical lines. His clinical teaching too was a model of what clinical teaching should be.

I must not leave the subject of post-graduate training without recording what I owe also to Drs. William and Charles Mayo, the founders and builders of the Rochester Clinic, the most famous post-graduate school in the world. In 1906, and again in 1911, I had the privilege of being Dr. William Mayo's guest, for a fortnight on each occasion. To give an adequate idea of how much these visits impressed me, and of how much I profited by them, would occupy the whole time allotted for my address. I was equally impressed by the great development which had been achieved in the interval between my two visits; in fact, my second visit was just as profitable as the first.

LESSONS OF THE WAR.

My last—and in many ways my greatest—teacher has been the war. While our experience during the last five years can hardly be said to have brought about any revolutionizing discovery in general surgery, it has, nevertheless, emphasized the value of many practical methods and details of treatment which we shall do well to keep before us in our civil work. The technique, for example, which has been evolved for the early excision of contaminated wounds, a procedure which has proved of the greatest value as a prophylaxis against sepsis in war surgery, has its application in the treatment of industrial injuries. The Thomas splint, which has been such a boon in the treatment of fractures of the lower extremity, should henceforth be an essential part of the armamentarium of the general surgeon.

The war experience of the pathologists and bacteriologists has likewise made equal, if not greater, additions to our knowledge; indeed, it may be said that the war has created a new epoch in bacteriology. One need only mention the researches that have been carried out on the anaërobic micro-organisms of wound infections, on trench fever, and on Weil's disease. Sir Almroth Wright's work on Nature's methods of combating sepsis has taught us how to assess the value of antiseptics, and has explained to us how rest, combined with radical operative treatment based on sound principles, is the most essential factor in the treatment of wounds, and that if these principles are thoroughly carried out it matters little whether the wound be treated on antiseptic or on aseptic lines.

The chief lesson I have learnt from the war, however, is the value of team work by young men guided by the wider general experience of their seniors. The surgery of the war has been the surgery of young men—men with keen and receptive brains, men who have been well trained in the fundamental medical sciences and who have been

able to apply their knowledge not merely to the improving of old methods of treatment, but also to the devising of new methods to meet the new conditions they had to deal with and the new environment in which they found themselves.

It is largely due to team work by the younger men that great advances have been made, not only in wound treatment, but in the early and late treatment of fractures, especially fractures of the femur, in wounds involving the joints, in injuries to the nerves, and in military orthopaedics generally; also in wounds of the lungs and pleura and their complications, as well as in injuries of the skull and brain. Special mention must also be made of the wonderful work which has been accomplished in connexion with the repair and reconstruction of the parts after severe facial injuries. In this work the dental surgeon has taken a prominent part; indeed, he has been indispensable. Lastly, much valuable information has been obtained also with regard to the nature of shock and to the methods of combating it.

Professor Caird.

I feel I cannot conclude my address without taking this opportunity of saying what I owe to my distinguished predecessor, Professor Caird. Lister's love of surgery was well known. Caird's is certainly no less profound. His enthusiasm for surgery and his love of teaching have been unbounded.

Fortunately, although Professor Caird has reached the age at which he must retire from the chair, he is as vigorous as ever, both in body and mind. It is to be hoped now that, freed from arduous hospital work and clinical teaching, he will find time to give to the surgical world some of the fruits of his ripe experience.

I have already referred to the splendid system of clinical teaching adopted by the late Professor Kocher. I feel sure I am correct in stating that a similar system has been followed—and with the same thoroughness and success—by my distinguished predecessor in this chair, and it will be my endeavour, as far as in me lies, to follow in his footsteps.

TWO CASES OF TRAUMATIC ANEURYSM OF THE COMMON CAROTID.

BY

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I venture to publish an account of these two cases because I think them to be of interest from a surgical point of view, and also because the patients not only survived their original wounds but also operative interference.

Case I.—*Gunshot Wound of Neck: Arterio-venous Aneurysm of the Left Common Carotid.*

The bullet had traversed the left side of the neck horizontally at the level of the cricoid, leaving a perfectly clean wound. The man came under my notice about three weeks after being wounded, when there was a visible pulsating swelling, with its greatest prominence in front of the anterior border of the sterno-mastoid. The swelling presented the usual signs of an aneurysm, including a loud bruit, which ceased on pressure being made at the root of the neck.

Operation.—A long incision was made over the anterior border of the sterno-mastoid, and deepened until the internal jugular vein was exposed. The vein was enormously distended, having a diameter of 2 in. No doubt the division of the fascia had allowed it to expand to an extent greater than before the disturbance of the parts. There was a communication between it and the internal carotid just below its division. The internal carotid was clamped with a guarded pair of forceps with a view to seeing if the communication could be closed. However, although this proceeding lessened the tension in the vein, it had no effect on its size, and this, coupled with the dense cicatricial tissue of the bullet track, prevented a safe exposure of the main vessels. The vein was accordingly divided and tied. The clamp on the common carotid was removed, and the vessel ligatured in two places and divided between them. A somewhat difficult dissection exposed the external and internal carotids. These were ligatured at their origin from the common trunk.

Case II.—*Gunshot Wound of Neck: Dissecting Aneurysm of the Left Common Carotid Artery.*

The bullet passed from a little below and behind the mastoid process to a point on the left side of the trachea at its commencement. The entry wound was clean and newly healed when he came under observation, but there were signs of inflammation round the bullet. This case differed in appearance from the last only that the swelling steadily increased and was more tense.

First Operation.—The bullet, which was found lying in a little pool of pus, was extracted. The wound was left open, and at the end of a week was reasonably clean and nearly healed; the steady increase of the aneurysm, however, necessitated interference.

Second Operation.—A similar incision was made and gradually deepened until the sac of the aneurysm appeared. It was roughly fusiform, and extended from 1½ in. above the clavicle to somewhere about the level of the lower jaw. Its upper limits were not investigated. The sac was perilously thin, and appeared to consist only of some of the outer coat of the artery. The internal jugular crossed it somewhat far back. It was firmly adherent, so that the main bulging was directly forward. In order to reach the common carotid in the little available space above the clavicle without dragging on the vein, it was necessary to divide and tie the vein below the sac. The tying of the carotid was then begun; during the process the sac burst spontaneously in its upper part, and a high pulsating jet of blood shot up. A swab was pressed on the hole and controlled the bleeding. The tying of the carotid was then finished. On removing the swab for a moment the jet of blood was in no way diminished, but had lost its pulsation. The sac entirely overlay the external and internal carotids, preventing any search for them, so two swabs were placed on the hole in the sac and pressure maintained on them by sewing the inner edge of the carotid sheath firmly to the edge of the fascia covering the sterno-mastoid. This proceeding stopped the haemorrhage for the time being, at any rate, and the wound was closed.

Third Operation.—No signs of haemorrhage having occurred after the second operation, the wound was reopened five days later and the swabs removed. The sac had been obliterated entirely and no haemorrhage occurred. The wound was reclosed and a small drain put in the lower angle of the wound to give early warning of any bleeding.

Both patients were young men of nineteen or twenty, and made uninterrupted recoveries. Case I complained of headache for three or four days after his operation, but otherwise neither of them showed any sign or symptom of being the worse for the loss of both arterial and venous channels on the one side.

My best thanks are due to Colonel G. St. C. Thom, A.M.S., D.D.M.S., N.R.E.F., for permission to publish these cases.

TRAUMATIC RUPTURE OF THE SUBCLAVIAN ARTERY: DEATH NINE DAYS LATER.

BY

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The following is an account of a case of sufficient interest to warrant publication on account of its rarity.

Semenko, a Russian mechanic belonging to H.M.S. *Josephine*, was admitted to the 53rd Stationary Hospital, Archangel, in the evening of October 4th, 1918.

History.

He was on board a small tug which was coming alongside one of H.M. ships, and was warding it off from the ship's side. To do this more effectually he had the boathook against the ship's side, and the near end of the pole placed under his left clavicle. He was leaning on the pole. Unfortunately for him the wash of a passing vessel caught the tug and threw it towards the ship. Immediately behind him was the cabin of the tug; he was therefore caught between the cabin and the end of the boathook, which pinned him to the wall of the cabin. When the swing of the boat was over he dropped on deck. The doctor of the ship was called, and he was seen also by Colonel Ormrod, R.A.M.C., who sent him up to the stationary hospital at once.

Complete absence of all pulse at the left wrist was noted. Morphine had been given to him before removal.

and his arm was secured to his side. He arrived in hospital about one and a half hours after the accident.

Condition on Admission.

He was suffering from severe shock, and was very restless. There was a large non-pulsatile swelling over the left clavicle, extending up into the neck. There was no pulse at the left wrist. He was markedly bloodless; the whole of the left side of the chest was dull, and respiration could scarcely be heard. He appeared to be moribund.

Diagnosis.

Injury or destruction of the subclavian vessels, with bleeding into the left pleural cavity.

Treatment.

It was a question whether to let him die quietly or to operate in the forlorn hope of being able to do something to save him. Eventually it was decided to operate. The electricity of the hospital suddenly gave out, which rendered matters more difficult, but an acetylene operating lamp was at hand, and an electric lamp was run off the *x*-ray plant next door by the ingenuity of Captain Cotter, R.A.M.C.

A light general anaesthesia was given. A long incision was made over the swelling above the left clavicle. As soon as the fascia was opened a large quantity of blood gushed out. A finger was at once inserted to control the artery against the first rib. Both the first and the second ribs had disappeared, and could not be felt with the exception of loose fragments of bone. The artery, however, was found at once, the end sticking up into the wound like a finger, pulsating feebly, completely severed. Whether it was bleeding or not at the time was not discovered. It was grasped at once with powerful forceps, which were left on. The distal end of the artery could not be found, and nothing could be made out with regard to the vein. Nothing could be seen as the field of operation was awash with blood. The wound was sewn up, and the artery forceps left protruding from the wound. The operation took a very few minutes. During this time saline was being given into a vein, two pints were run in, and he was left undisturbed on the table till his pulse had recovered some strength. He was then put back to bed, and more morphine given.

After-History.

More morphine had to be given during the night, but even then he did not sleep well and was very restless. Next day, however, he was much better, and we entertained hopes of being able to save him. He was very restless for the next two days. The foot of the bed was raised high upon blocks, and this seemed to worry him and keep him awake.

October 6th, 1918. He was dressed and the forceps removed from the artery. A long rubber tube was inserted into the wound and 1½ pints of fluid blood siphoned out of the pleural cavity.

October 7th. He was dressed again and half a pint of blood withdrawn from the chest in the same manner, the bed being tilted to an extreme angle to allow this to be done more effectually. His arm was unfastened from his side and disinfected, after being washed, as gangrene of the arm was feared. The lower limbs were bandaged. He was constantly receiving saline by the rectum, and took a good deal of fluid by the mouth. Morphine seemed to have little effect in controlling his restlessness, and he was now given hyoscine in $\frac{1}{100}$ grain doses. He passed a better night, but showed signs of renewed haemorrhage next morning.

On October 8th he had torn off his bandages in spite of the special orderly, and got his arm free, and was very restless and anxious about himself, continually asking if he was going to die.

On October 9th laudanum ♏ 30, with potassium bromide gr. 45, were given and he passed a slightly better night, but managed again to free his arm, which he waved about wildly. The forearm was very swollen and tender. There was no sensation below the elbow. It was thought that a line of demarcation was forming below the elbow. The arm was again disinfected and put into a clean sock.

On October 10th his condition was much the same, but he was showing signs of exhaustion as he would not sleep, in spite of everything we could do. Morphine and bromide had been repeated with little effect; he was continually restless and a very bad patient.

On October 12th his condition was worse. The heart seemed pushed slightly to the right, and he was breathing badly. He again tore off the bandages from his arm, and this time from his wound as well. Hyoscine was given with very little effect.

He died of exhaustion early on the morning of October 13th. He really never gave himself a chance throughout.

Post-mortem Examination.

The left clavicle was found unbroken, as had been noted at the operation. The pole of the boathook had been thrust in below it. The first rib was broken far back, and detached from its cartilage at the sternum. The loose fragment had rotated inwards transversely. The second rib was broken and detached from its cartilage half an inch from the sternum. The artery was completely severed, evidently by the broken ribs, probably the first, as it rotated inwards. The crushed proximal end was completely occluded; the distal end was full of firm clot. The vein was not torn. The left lung was collapsed, and the pleural cavity still contained much blood.

It is my opinion that this man's life might quite well have been saved if he had been more reasonable and more amenable to treatment, in spite of the severe injuries he had sustained.

THE BALANCE OF COLLOID AND CRYSTALLOID IN CHOLERA, SHOCK, AND ALLIED CONDITIONS.

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THE JOURNAL of September 20th last (pp. 387, 394) contains two articles of first-class importance which come from sources so wide apart as France and India, and are recorded independently, but they shed such a light upon each other, and upon several outstanding obscure facts in the study of immunity, that it seems worth while to bestow some thought upon the underlying common cause of the whole series.

The first is a review of recent work by Richet, Brodin, and Saint-Girons[1] on anaphylactic shock, in which it is shown that such shock can be prevented by addition of sodium chloride to the dechaining dose of serum, or by rendering the blood hypertonic with saline before this serum is injected.

The second is a letter from Sir Leonard Rogers pointing out that while intravenous injections of hypertonic salines in cholera are of well-proven advantage similar injections of gum arabic as used by Bayliss so effectually in combating wound shock, or surgical shock, are here of no avail but rather appear to be a disadvantage.

Now these two sets of observations are by no means contradictory but most beautifully complemental, also both are in consonance with the findings of the French school on anaphylaxis and, as will be shown, with the earlier observations from India of Sutherland and McCay[2] that hypertonic salines inhibit haemolysis either in a natural haemolytic system or an actively created one with a specific haemolysin, as in the Bordet-Gengou reaction and the Wassermann test.

The common cause of all these phenomena is a disturbance of that delicate equilibrium between the colloids of the blood and cells (such as proteins and lipoids) and the crystalloids (such as sodium chloride) existing united or adsorbed in common solution or suspension.

Taking, first, the positive effect of a colloid, such as blood-proteins, gelatine, or gum acacia, in shock due to haemorrhage, surgical injury, or prolonged anaesthesia, as compared with the failure of simple hypertonic salines under these conditions, we find that the situation is one of a circulating fluid not merely defective in total volume but also relatively poor in colloid compared to crystalloid. Accordingly inorganic salts, or salines, given alone are here rapidly eliminated, having no colloid to anchor them, and so being treated as foreign bodies and thrown out by kidneys and intestine. But gum arabic, gelatine, and plasma proteins cannot be so expelled, and serve to anchor inorganic salts and so preserve the equilibrium of crystalloid and colloid not only in blood but in the master cells of brain and heart, where the state of aggregation of the protoplasm would soon become altered.

That there is such an interaction of adsorptive character between colloid and crystalloid is shown clearly by the definite changes in osmotic pressure following upon variations in the concentration of the salines in which the colloid is in solution. This osmotic pressure measures the degree of aggregation of the colloid, and the same colloid may show a ten-fold variation with varying concentrations

of the saline. Such variations can only be explained by union between colloid and crystalloid. This change was first shown for the serum-proteins by Moore and Parker[3] and Moore and Roaf,[4] and later confirmed by Lillie[5] and others. A similar effect is obtained with gum acacia, for the measurements of the osmotic pressure of this colloid made by Moore and Roaf[4] in distilled water gave treble the values later obtained by Bayliss[6] in physiological saline. The obvious explanation is that given by Moore and Roaf for the serum-proteins—namely, that the solution aggregate of the colloid changes in presence of the crystalloids.

These two series of experiments upon the osmotic pressure of gum acacia in presence and absence of salt clearly demonstrate two things—(1) that a solution of gum arabic made in water, or saline, as recommended by Bayliss, and injected intravenously will at once seize upon or hold a certain amount of saline in the blood, and as a result of its presence the total salt content of the blood with which nerve and muscle cells stand in common equilibrium will rise, and (2) the most important fact, that as a result of this adsorption the state of aggregation of the injected gum will change so that the "molecular weight" or "solution aggregate" is only about one-third to one-fourth of its former value—for this is precisely what the fall in value of the osmotic pressure means on Avogadro's law.

Now the colloids of the plasma are but an intermediary to the colloids of the cells in equilibrium with them. These are still more sensitively balanced than the plasma colloids, for they are a stage more complex. Accordingly, if variation in salt concentration can alter the molecular complexity of gelatine, gum, and serum-protein, it follows that it also can and must affect the condition of complexity of cell protoplasm. There is, indeed, abundance of collateral evidence, such as incipient precipitation due to salines and the washing out of lipoids by hypotonic salines, to prove the occurrence of such changes.

Take next the case of efficiency of hypertonic salines in cholera, and inefficiency of colloidal solutions such as gums, and it is clear that this is as it ought to be, for the condition is one of excess of toxic colloids and defect of balancing electrolytes or salines. The crystallo-colloidal balance is in this case upset in the opposite direction. Electrolytes are wanted to combine with circulating toxic colloids and with colloids of tissues and prevent these linking on to each other. Gum injected under such conditions only furnishes another claimant on that side of the balance for the already denuded concentration of crystalloids to cope with. This action robs the cells still more of their salines, and sets free adsorptive situations in which toxins attach themselves, so leading to altered aggregation of protoplasm and locking of its mobility.

On the other hand, free saline in the blood in such diseases as cholera combines with toxins to form a crystallo-colloidal union, and this is an essential factor in excretion of the poison by intestine and kidney. The unattached colloidal molecule of toxin possesses no osmotic pressure, nothing to drive it through an excreting cell. When it becomes attached to a crystalloid the combination acquires a directive force like a gas molecule within a porous pot, and like this now possesses a power of diffusion.

The unattached toxin is like a drifting hulk or barge with no motive force of its own; the crystalloid from the hypertonic saline is like the tug to this barge. The tug takes the toxic colloid out through the intestinal mucosa or renal epithelium. The tug, once attached to barge, cannot readily break the towing rope and go through alone unless there is a high gradient of fall of osmotic pressure to disrupt the adsorptive bond uniting crystalloid and colloid. Whether both go through or not will depend on the size and properties of the colloidal aggregate and the width of the lock gates in the excreting cell.

In the case of gum acacia in shock the colloidal "solution aggregate" (colloidal molecule) is too large to pass out, and this retains the crystalloid; these two together produce an osmotic pressure and keep up the volume of blood for the heart to drive round. In the case of hypertonic saline in cholera the molecule of toxin is smaller and the saline tug carries it out through intestinal and kidney cell. It is, indeed, this rapid passage out of an immense navy of crystalloidal tugs which depletes the blood of its crystalloids; this in turn depletes the nerve cells and leads to shock and collapse.

An exactly similar explanation can be given for the results obtained in prevention of anaphylactic shock by hypertonic saline, only here the colloidal constituent, or antigen, attacked, or protected, is probably lipoidal in nature (that is, a lecithin), as it is in syphilis and the Bordet-Gengou phenomenon.

There is clear evidence that the stability, or state of aggregation, of a suspension of lipoidal nature varies with the concentration of saline or electrolytes in common solution with it. It is for this reason that erythrocytes dissolve, or haemolyze, in water or hypotonic salines.

When an animal is in an anaphylactic condition the lecithins of its nerve cells and muscle cells have been rendered sensitive to the particular serum by reaction with the first dose of this injected. These cells *in situ* within the animal's body are in precisely the same position as the colloids of the serum of an animal sensitized haemolytically by injections of a given suspension of red blood corpuscles. The Bordet-Gengou phenomenon of haemolysis happens in a test-tube, the Richet phenomenon of anaphylactic shock happens in the living body; this is the sole difference between them. In each case, as in practically every biochemical reaction of zymolysis, fermentation, and immunity, there is a similar triad of constituents to the reaction. In the Bordet-Gengou haemolysis these are (1) the red blood corpuscles, (2) the serum specifically sensitized to them, and (3) complement. In fixation, or deviation, of complement in the first stage of the Wassermann test the corresponding triad is (1) lecithin from any tissue, (2) syphilitic toxin which attacks lecithins (just as in the body it would attack the lecithins of nerve cells), and (3) complement. In the anaphylactic shock there are (1) lecithins of nerve cells, (2) the specific serum, (3) complement. In the action of oxidases there are (1) substance to be oxidized, (2) oxidizing ferment or oxidase, (3) a peroxide. In fermentation, (1) the sugar, (2) the endo-enzyme of the yeast, (3) the co-enzyme, a phosphate or phosphatide. In hydrolytic digestion, (1) the substrate, protein, carbohydrate, or fat, (2) the enzyme, (3) the co-enzyme acid, alkali, or neutral salt. In differential staining of any microscopical preparations, such as bacterium, tissue, or in selective absorption of particular salts in physiological growth there are (1) absorbing tissue (2) adsorpate, such as dye, etc., (3) the mordant, such as a salt of iron or aluminium. These examples are sufficient to show how universal is this peculiar colloidal reaction, with its triad of participants throughout all biochemistry.

Now, such an adsorptive reaction can be locked up or prevented either by the absence, or by the chemical fixation, of one of the partners to the reaction. Many years ago Moore and Roaf showed that this formed the physico-chemical basis of anaesthesia. Here the anaesthetic locks in with the cell colloids and reduces metabolic activity. The same happens in many poisonings, such as cyanide poisoning, where the cyanide locks into the colloid and prevents oxidation, although the blood is fully charged with oxyhaemoglobin. Similarly, locking of enzymes and prevention of their action can be shown in the test-tube, even with inorganic colloids such as colloidal platinum.

This is the explanation of absence of anaphylactic shock in presence of excess of saline, which binds in with the reacting crystallo-colloidal system and destroys that delicately poised lability which is necessary to the adsorptive reaction. Similarly McCay and Sutherland showed that the haemolytic reaction did not occur between a specific haemolysin, corpuscles, and complement if the saline content were made about double that of the animal's serum.

No doubt for each type of reaction more sensitive crystalloids than common salt may be found, and we are here at the very heart of experimental therapy. The preventive crystalloid at any given concentration will be efficacious according to the reaction constant of its affinity for one or other of the reacting substances, or, in other words, upon its specific adsorptive power, or its mordanting power. This will differ from one pair of colloid and crystalloid to another, and is the basis of that property whereby one type of cell takes up one crystalloid and another selects another. This is the reason why the main ions of the plasma are sodium and chlorine, while

those of red blood corpuscles are potassium and the phosphatic anion. It enables diatoms to take out silica for their skeletons from the minutest traces in sea or pond water, and the osseous tissues similarly to adsorb calcium phosphate.

The most striking instance of all of this delicate equipoise between colloids and crystalloids is the regulation of the amount of saline in the cells and circulating fluids of the body. From the evolutionary point of view this regulation is much more ancient than that of body temperature, and its pathological variations are probably more important than those of the temperature could we only discover as ready a means of studying them as is the clinical thermometer in the case of temperature.

This equipoise of salt concentration started in evolution at the level of the fishes, with the teleostean, and up that long range of evolution to man, through countless types and channels, there is scarcely a flutter in its value. The variations in all species may probably be said not to lie outside the limits marked in isotonic saline by 0.7 and 0.9 per cent., and in any one given species the physiological range is many times narrower.

What is the mechanism of this exquisite adjustment throughout such a wide range of the animal world, and with any variation in the external environment, from fresh pond water, or the very hypotonic fluids daily in use by man and other animals, up to the salinity of sea water, which is manifold hypertonic to the blood of all teleostean fishes? The answer is that this amount is that which is in equilibrium or colloidal adsorption with the colloids of cells and plasma. Any additional amount becomes free in the circulation, and is promptly removed by excretion. In other words, isotonic saline expresses the balance between colloids and crystalloids.

The union between colloid and crystalloid is very slight; it is a molecular union in which the units are molecules not atoms, and there are no atomic linkages. It much more closely resembles the union of salts to their water of crystallization, and such physical properties as electrical conductivity are not interfered with. Nevertheless, the union is quite definite, and without it life as it now exists would be impossible.

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[1] *Compt. rend. de l'Acad. des Sciences*, Tome 169, 1919, p. 9. [2] *Biochemical Journal*, vol. v, 1909, p. 1. [3] *Amer. Journ. of Physiology*, vol. vii, 1902, p. 261. [4] *Bio-chemical Journal*, vol. ii, 1906, p. 34. [5] *Amer. Journ. of Physiology*, vol. xx, 1907, p. 127. [6] *Proceedings Royal Society*, vol. 89 B, 1916, p. 384.

THE TREATMENT OF INCIPIENT MENTAL DISEASE.*

BY

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THIS subject is a matter of great public importance, because the cost of maintaining the insane and the mental defectives of this country implies a vast financial burden upon the rates and taxes, now amounting to about four million pounds a year, and this burden has been gradually increasing for many years. So far as reliable lunacy statistics could inform us the total number of insane persons in England and Wales had reached, at the end of 1914, the alarming total of 140,466 persons, or 1 to every 266 of the estimated population. These were the exact numbers on January 1st, 1915. Since the commencement of the war no official record of the total numbers has been obtainable, because soldiers and sailors and airmen, as well as others serving with the forces, who may have become insane or who may have suffered from a temporary mental and nervous breakdown and who required care, have been treated in war hospitals, and have not been regarded as insane. They have not been certified, and therefore have not come under the jurisdiction of the Board of Control (Lunacy Commissioners); consequently accurate statistics of official insanity in England and Wales have not been possible. Naturally, since the above date the total officially recorded in asylums and private establishments has considerably diminished, but the numbers must be misleading and unreliable if they are taken to reflect the exact incidence of insanity among the people.

The special point dealt with here is the treatment of insanity in its early stages, and every medical practitioner must have had experience of the difficulties presented by mental cases in private practice—not only in their actual treatment of the disorder, but also from the strong feelings aroused and expressed by the certificate and the consequent compulsory removal and detention of those certified into the various mental hospitals or into the private asylums which are recognized by the law and are the most suitable curative establishments. In order to obtain the best remedial treatment in these places, it is obligatory and compulsory for all, except the voluntary boarders, which only applies to private or paying patients, to be first certified as insane, and every doctor, as well as all the friends and relatives of a mental patient, realize the hardships which the certificate of insanity imposes upon the person certified, as also the undeserved stigma which is reflected upon him and his friends by its issue. A few of these disabilities are that the medical certificate of insanity separates the sufferer from his friends, it removes him from his home, it cuts him off from all social privileges, it removes from him his domestic rights, it takes away all his former financial control over his own affairs, it disfranchises him so long as he is under its ban, and it practically dispossesses him of all the rights and liberties which men hold dear. No other illness is more dreaded nor more costly, yet no other illness under skilled care is recovered from more quickly. The need for skilled care was so well insisted upon by Sir Henry Halford when he was called in to treat His Majesty King George III after the failure of Dr. Willis that he was fully justified in the statement made that the care and control of a mental patient was the most responsible duty imposed upon any physician, and success in treatment depended upon qualities of head and heart such as no other disease demanded from the nurse and doctor; but success in mental cases is attended with infinite satisfaction and credit, and he was enabled by it to gain the confidence and respect of his sovereign in four reigns, for he became the confidential adviser in turn to King George IV, to William IV, and to Queen Victoria, thus exercising for himself as well as for the medical profession a reputation of distinction as well as gratitude for personal service, marked skill, and steadfast devotion.

The first cry that one hears when called upon to advise or to treat a case of mental disease is "Please don't put mother away"; "Please don't send her away to an asylum to associate with lunatics"; "I couldn't bear the idea when she got well that we should have been a party to having her certified as insane." And these are real grievances, especially to the lower middle classes, who are the real workers in the State, who bear their ills without revolt, and who often suffer in silence. The rich or the well-to-do can be received as voluntary boarders into any mental hospital or into any private establishment, but the less financially favoured, who constitute the great majority in the State, must be certified insane and detained until they have shown their right to be free, if they desire to undergo treatment, or their friends wish it. There is no place wherein to send the poor unless previously stigmatized by the certificate as lunatics.

Before the war it was so fully realized that even if recovery occurred the painful memory of association with cases worse than themselves, and the recollection of an illness with its distressing consequences would tend to precipitate a relapse, and that the stigma of a mental illness would remain for the whole of life and would be a blot upon his record, so that he would have no chances of success in the future. His detention as a lunatic would cause him to be shunned and avoided by all his former friends, and on leaving the asylum he would be isolated in a world of his own and viewed with suspicion and distrust. Owing to the nature of his illness he would be left without friends, without work, and without sympathy, even though, as in most instances, he was not to blame for his illness or misfortune. However short the detention, the disastrous consequence of certification remained; and not only did the undeserved reproach adhere to him, but it reflected also upon members of his family

* Communication to the West London Medico-Chirurgical Society during the latter part of the session 1918-19.

and upon those dependent on him. It marred their prospects as well, and certainly prevented them from being regarded favourably as to marriage, so that, owing to his illness, they descended to a lower social plane from which it often became impossible for them to emerge. So cruel were these reflections felt to be, and so undeserved yet so inevitable, that a strong effort was made before the war to obtain legislation so as to enable all mental cases to be treated in the early stages without the commitment certificate. So much impressed was the Director-General of the Army Medical Service with the reasonableness of this complaint that he decided no insane soldier or officer should be certified to be insane when suffering from a mental or nervous breakdown either until nine months had elapsed after the commencement of his illness, or unless the illness on the face of it presented incurable features or symptoms of chronicity or irrecoverability such as would be implied by cases of general paralysis, epileptic insanity, confirmed dementia praecox, or chronic delusional insanity.

Probably over 20,000 cases from among the soldiers at home and overseas presenting mental symptoms have been treated by the Army Medical Services in war hospitals during the last five years, and many of these must have recovered early, yet with the exceptions referred to not one of them has been allowed to suffer from the stigma of insanity. It is most urgently necessary—and this is only in accordance with the dictates of humanity—that the same treatment which is meted out to the mentally sick soldier should be extended to his civilian relations, as the benefits conferred upon the soldier would be extended equally to them, for in the early stages recovery is the rule.

In the statistics of Claybury, one of the asylums of the London County Council of which I had personal knowledge, the recovery rate for 1912 and 1913, the two years preceding the war, was respectively 41.95 and 38.58 per cent., whilst the average recovery rate for England and Wales was 32.3 and 31.9 respectively, and in the number of recoveries for 1913, the year immediately before the war, 70 per cent. were discharged recovered after a residence of less than nine months, and of these 60 per cent. were resident less than six months, and 17 per cent. less than three months, whilst less than a third of those who recovered did so after nine months and up to several years.

It is most strongly desired that those persons who may be suffering from their first attack of insanity should have the chance and the opportunity of recovery without being certified, and without incurring the disabilities already referred to. In order to show the need for this opportunity, it may be mentioned that no fewer than 18,000 cases of insanity occurred in one year—that is, in persons for the first time—and 90 per cent. of these were received into the county and borough asylums of England and Wales, all these being among the poorer, and financially less favoured, classes, who would deeply appreciate an escape from the certificate of insanity.

Many patients fear an indefinite detention in an asylum more than actual death, and they are themselves deeply suspicious and resentful of restraint. Such a feeling engenders hatred of the system, delays treatment, and lessens the chances of recovery. Already the poor may enter hospitals for bodily ailments voluntarily, but they cannot receive treatment for the more disabling mental illnesses without the certificate of insanity; and it is an anomaly, whilst admitting persons voluntarily for bodily complaints, to insist upon an aggression on personal liberty for the relief of mental illness. As the law stands at present, it is definitely set against the curative treatment of mental ailments. It clearly places obstacles upon the recovery of persons suffering from these diseases, and it interferes with the work of the physician who is concerned with mental healing. It is maintained that four definite points should be aimed at in any effort to better the treatment of early cases of insanity: (1) The extension of the voluntary boarder system from the rich to the poor insane and the contribution to their maintenance by the new Ministry of Health; (2) the sanction or approval of special homes for their reception and treatment, as is the case with mental defectives; (3) treatment for a period of six or nine months without certification; and (4) supplying to the patient an atmosphere of recovery, which the present asylum treatment does not do.

Discussion.

In the course of the discussion that followed, Dr. C. Hubert Bond, one of the Commissioners of the Board of Control, made the following remarks:

I wish to dwell upon two points: one is the inference that may be drawn from the satisfactory proportion of recoveries at Claybury, and the other is the fact that all the cases out of which those recoveries occurred had, in accordance with the law, required to be certified under the Lunacy Acts before he or she could obtain admission with a view to treatment; and it ought further to be borne in mind that many of those recoveries took place within three months after admission, by far most of them within six months and but few after nine or twelve months. It is legitimate to inquire whether, and indeed to assume, that some of those who failed to recover at all might have done so had they received more prompt treatment in the earliest stages of their mental illness.

The stigma referred to as attaching to the certification of insanity is deep-rooted; it certainly delays prompt treatment; and it tends to make the treatment of the psychoses a discredited section of general medicine, instead of being, as it is, a highly important branch and a most difficult field of investigation and research.

Civilization has progressed, and much advance has been made since the original Lunacy Acts were framed and passed, largely to meet abuses—real or alleged; yet human nature being what it is, their relaxation without adequate supervision would probably be followed again by a reappearance of at least some of those abuses which have long since disappeared; however, in view of the enlightenment of public opinion and of the intolerance of abuses to-day, my colleagues on the Board of Control as well as myself, and in fact many others who have a right to form an opinion upon this subject, and whom we have consulted, all feel strongly that an alteration in certain sections of the Lunacy Acts might now safely be made, and with great advantage to the patients whose interests they are primarily to protect. Such a modification ought to be made that may enable a person suffering from symptoms of incipient or early insanity to obtain with or without payment, according to the patient's circumstances, and expeditiously, such skilled treatment as may be necessary, but for a limited period (say six months) without the certificate of insanity. He should be under adequate supervision either (1) in one of the institutions for the insane, or (2) in a general hospital (either the large charitable or voluntary ones or those which it has been suggested some local authorities should ultimately provide), or (3) in such a place as a nursing home specially equipped and adapted for the purpose—each of these three groups of establishments to be encouraged and allowed to make special arrangements to deal not merely with an occasional patient, but with a number of such cases; or (4) as a single patient in any nursing home or private house.

So earnestly do my colleagues and myself desire to secure earlier and more prompt treatment for cases of mental illness, and if possible to break down that popular prejudice which is so prevalent in regard to mental illness, and which even denies its existence when present and delays its appropriate treatment, that if a change in the law can be secured—and this is necessary before any further steps can be taken—the Board of Control have suggested that, besides the absence of certification for a prescribed period, no notification to them of the names of the patients so treated need be made, being content with a facility to visit from time to time and see such patients, with an access to records and with certain provisos as to the forwarding of such patients' letters; but as respects private institutions and houses maintained for profit, we think that on each occasion of the reception of a patient under the proposed Act, notification of the fact (not of the patient's name) should be required, and subsequently of his or her departure.

I am not suggesting that all early cases of certifiable mental disorder could be suitably or properly dealt with under the legislation proposed, or that legal facilities should be sought to cover all early cases. My meaning will be clearer if such cases are regarded as divisible roughly into three classes: the "willing," who desire and consent to remain and undergo treatment; the "indifferent," who, owing to their mental illness, are unable to express consent or refusal; and the "unwilling,"

who would resent and refuse the restrictions upon their liberty necessary for treatment. For this third group it is considered, for the protection of all concerned, that the safeguards of the existing law should still be maintained; in other words, the freedom of action in treatment which we should like to see made legally available would not include a power of detention.

I should like to return to the subject of help from general hospitals, for it is one I have cherished for a long time, and to which I have several times made public allusion elsewhere. I would reiterate that no substantial progress can be made in the early treatment of mental disorder, and that the barriers which so unfortunately segregate the treatment of mental disorders cannot be removed, until the general hospitals agree to abandon their practice of giving the "cold shoulder"—if I may use the expression—to every case in which the symptoms are predominantly mental. I would like to appeal strongly to those in authority and to ask them to consider whether the time has not now arrived when this old policy may properly, and with all-round advantage, be reversed. I am familiar with the history for this attitude, and realize there are certain inherent difficulties in coping with it, but am confident that with sympathy and a desire to adopt a change in policy on this matter they could be overcome. The financial one might be overcome if the Legislature would empower the local authorities to subsidize the maintenance of patients suffering from early mental disorder, in special wards in or associated with a general hospital, and would authorize local authorities alone or in combination either to subsidize the provision of these special departments or to establish special hospitals of their own—the former alternative by preference. I venture to think that it is both timely and opportunely that this reference to general hospitals should be made at the West London Hospital, where some of my audience are carrying on so efficiently the work of relief.

It is highly desirable that adequate interest should be aroused in these matters, because the proper development of such facilities would naturally lead up to the establishment of psychiatric clinics, the absence of which in this country is a reflection at least upon our sympathy with the treatment of mental diseases. Their establishment would help to educate the public in matters of health, and certainly in respect of mental health. But besides that educational mission and besides their great therapeutic utility, they are urgently needed for the better education of medical practitioners and students, and for research in psychiatry. It is gratifying that at least three universities in this country have taken this matter into their serious consideration.

THE CURE OF BILHARZIA DISEASE BY INTRAVENOUS INJECTIONS OF ANTIMONY TARTRATE:

THE PROPHYLACTIC ACTION OF THE DRUG.

BY

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WITHOUT exception all the recent reports of cases so treated confirm the statement that antimony is a specific cure for bilharzia disease. In other words, antimony so used kills the parent worm in the tributaries of the portal vein of the patient and cures him of the disease.

But there is a wider interpretation of the formula "antimony cures bilharzia" than this, and it is the application of the larger meaning which makes the effect of the drug so complete—one might almost say wonderful.

In our paper in the *Journal of Tropical Medicine and Hygiene* of July 15th, 1919, pp. 129–144, we (J. R. Newlove and J. B. C.) show that the shells of the ova of *Bilharzia haematobia* and *mansoni* are permeable to water (they do not hatch out in urine without the addition of water), and that they are permeable also to chemicals such as formalin and potassic tartrate of antimony. The fact that bilharzia ova do not as a rule hatch out in undiluted urine and faeces indicates, it is true in negative manner, that the embryo within the ovum is physiologically aware of the lack of favourable conditions of the medium in which the ovum is suspended, and therefore will not develop. The embryo in the ovum is "in touch" with the world without. This can only be explained satisfactorily on the assumption of *permeability* of the egg "shell."

The fact that the shell of the bilharzia ovum (*haematobia* and *mansoni*) is permeable to formalin, whilst that of ankylostomum is not, has a practical application, and is demonstrated in the ordinary method which we adopt at the Khartoum Civil Hospital for the examination of faeces for parasitic ova and worms; we find that after the addition to an ordinary stool of 1 oz. of 40 per cent. formalin, bilharzia ova in the stool are sterilized (will not hatch) whilst ankylostomum ova are unaffected and hatch out.

The permeability of the bilharzia shell to antimony has a still more far-reaching application.

If it is true, then my statement[1] that antimony not only kills first the parasite, *Schistosoma haematobia* and *mansoni*, *in situ*, but, later, kills the embryos in the ova deposited in the tissues, and that the patient is cured, not only of his bilharzia parasites, but that he ceases to be a bilharzia carrier and cannot propagate the disease, is a very important one, for it means nothing less than this, that we have in antimony a practical means of eliminating bilharzia as an endemic disease from Egypt and from those countries where it prevails, such as the Sudan and South Africa, or, at any rate, of converting an endemic disease of national importance into a sporadic disease of parochial importance only. For if we can stop the supply of infected ova to the intermediate host at its source by treating bilharzia patients with potassic antimonium tartrate then *Bullinus dybowski*, *B. innesi*, *B. contortus*, and *Planorbis boissyi*, and other species of fresh-water molluscs which act as intermediate hosts for bilharziosis in Egypt, will cease to be infected, and they in their turn will be incapable of infecting the human host with bilharzia disease.

The fact that antimony given to a bilharzia patient kills the parent worms in the patient means benefit to one human being, but the fact that antimony also sterilizes the ova which have been deposited by the parent worms before death in bladder and rectum, renders the effect of antimony a hundredfold greater, for the benefit extends possibly to hundreds who might be infected by the patient, and it goes on acting all the time ova are being eliminated.

According to our own observations these deposited ova in some cases continue to be eliminated in batches for one or even two years after we may assume the parent worms have died (that is, after the completion of the course of injections).

There is another fact which suggests the permeability of the eggshell of bilharzia ova. After being deposited by the female parent worm in the bladder and the rectum the ova probably remain alive in the tissues for many months in a condition of suspended animation or development—they can only so remain alive on the assumption that the shells are permeable to the small exchange of nutriment required to keep "body and soul" together. Lying in the tissues when the injections are given, the very dilute solution of antimony in the blood slowly but surely penetrates the ova and attacks the embryos inside the shell and kills them.

If it is a fact that the deposited ova are sterilized and rendered harmless, it is a fact of the utmost importance, for in this event the patient cannot go on infecting fresh-water snails and through them other human beings, he ceases to be a bilharzia carrier and a danger to the community, and a direct means of offensive advance on bilharzia as a devastating disease is practicable in the shape of a frontal attack, and it is more than probable that by means of the prophylactic action of antimony (tartrate) bilharzia disease will be, practically speaking, banished from countries such as Egypt, where it is endemic and where it has so baneful an effect.

REFERENCE.

[1] *Lancet*, June 14th, 1919.

THE late Dr. J. Ewing Mears of Philadelphia bequeathed £20,000 to the Harvard University to be applied to the study of methods directed to the reform and cure of criminals and mentally deficient persons by surgical measures.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

TWO CASES OF HYPERNEPHROMA OF THE OVARY.

IN a recent series of 1,000 consecutive morbid growths sent to me for examination I have met with two cases of hypernephroma of the ovary, a neoplasm which is sufficiently rare to justify a brief descriptive note. In both instances the tumour was detected in the left ovary in the course of hysterectomy for fibroids and intractable menorrhagia respectively, and appeared to be causing no symptoms. The right ovary showed nothing abnormal to the naked eye. The appearances, both macroscopic and microscopic, were practically the same in each case, so one description will serve for the two.

Each tumour was oval in shape, and about one inch long by half an inch across, and was embedded in the stroma of the oöphoron proper, its free border projecting into the peritoneal cavity. There was no definite capsule, but in sections the distinction between the white substance of the tumour and its vascular ovarian bed—from which it could easily be shelled out—was well marked.

Serial paraffin sections were cut and stained, some with iron haematoxylin and Biebrich scarlet, and others with acid rubin and Mallory's aniline blue and orange stain; the latter method, however, yielded no additional information.

Macroscopically the ovarian stroma showed no abnormality, and the tumour was seen to consist of a homogeneous mass of cells, the nuclei of which stained faintly with haematoxylin, while the cell substance did not take the counter stain at all. The cells were identical in appearance with those of the normal suprarenal cortex. The nuclei were not in mitosis and there was no evidence of conjunction between those of adjoining cells.

The origin of these hypernephromata would seem to be sufficiently clear from a consideration of the embryology of the parts. Up till the third month of fetal life the suprarenal bodies are in contact with the upper pole of the testis or ovary, and as this descends it may carry with it fragments of suprarenal tissue from which tumours may subsequently be developed. As a matter of fact, however, hypernephromata are more frequently found in the broad ligament than in the oöphoron itself.

There was no clinical or microscopic evidence of malignancy in either of these cases. A section of one tumour was shown at a pathological meeting of the West London Medical Society in February, 1918, and the other was observed quite lately and has not yet been exhibited.

London, W.C. A. KNYVETT GORDON, M.B., B.Ch.Cantab.

IONIC MEDICATION IN CANCER.

I HAVE, during this year, treated a considerable number of cases of varied character by ionic medication, and being impressed by the excellent results obtained, especially by the rapid destruction of carbuncles, I used it in an inoperable case of cancer of the rectum, and publish the following notes in the hope that those who employ the method may give it a more extended trial in treating malignant growths than is possible for one experimenter.

J. C., a man aged 74, was admitted to the Auckland Poor Law Infirmary with cancer of the rectum. His age, his bad general condition, and the large area affected, negatived any attempt at surgical treatment. The rectum, as high as the finger could reach, was filled by a hard mass, the perineum and the soft parts around the anus, extending laterally to the ischia and behind to the coccyx, were involved and indurated. There were a number of raised points commencing to suppurate, and he suffered from the usual typical attacks of severe pain. Knowing (by personal experience) that the excruciating pain of carbuncles is entirely removed by one application of zinc ions, and influenced by the known favourable effect of copper ions on lupus, I put him under treatment by copper ions in the hope of at least relieving his pain without employing opium. The first application was made on July 8th, and from that day until the twenty-fourth dose he was much relieved of pain, but in other respects remained *in statu quo*.

I then changed to zinc ions, and after one application pain had quite ceased. To-day (October 6th), after seventeen applications, his condition is as follows: The anus presents a ring of hard growth; the rectum, as far as can be reached, is soft and normal. All the induration of the perineum and surrounding area has disappeared and only one suppurating point—the largest—remains, but is much reduced in size. The old man is able to get up and walk about, and says he feels "Quite well." His general condition is much improved.

The method adopted was as follows: The rectum was packed with a tampon of wool soaked in a 2 per cent. solution of zinc sulphate, the depressions around the anus were packed so as to make the whole surface level, and a pad of sixteen layers of lint applied, covering all the diseased structures with sufficient pressure to ensure accurate and equal contact throughout. The active electrode (positive) was attached to the pad, and the indifferent (negative) to the lumbar region. The current employed was 60 milliampères for thirty minutes on alternate days.

This case proves that in zinc ions we have an agent certain to relieve pain, and undoubtedly possessed of the power, to put it at its lowest, of not only checking malignant growth, but of destroying it. Personally, I am optimistic enough to believe that the astonishingly good results obtained in this case show that we have at our command the long sought for "cure for cancer."

I have this week commenced to treat an inoperable case of carcinoma of the uterus involving the vaginal walls by the same method, and purpose sending notes of the case after about a month's treatment.

Bishop Auckland, Durham. MARK WARDLE.

A CASE OF FRACTURED SKULL WITH HAEMORRHAGE.

THE following case may be of interest owing to the uncomplicated recovery from a serious condition.

A man, aged 38, was admitted to hospital on February 26th, 1919, at 11 p.m., in a semi-conscious condition, with a history of a recent fall, "crushed head," and epistaxis.

There was slight swelling in the right temporal region; reflexes were present, and the patient cried out in response to cutaneous stimuli. The pupils were of medium size, equal and active, the pulse rather small and slow. Ninety minutes after admission a small quantity of blood commenced to flow from the right ear; the right pupil became inactive to light and slightly dilated. The symptoms of compression increased slowly at first, then rapidly, until there was profound coma with a slow, full pulse, abolition of reflexes, flaccidity of both upper limbs, proptosis of the right eye, and wide dilatation of right pupil.

Operation.

No anaesthetic was required, the skin incision causing no response. On turning down a temporal flap on the right side an L-shaped fissure in the calvarium was disclosed, one limb travelling horizontally forwards and one vertically downwards. The skull was trephined over the meningeal artery, close to the angle thus formed. Blood clots thereby exposed were gently removed, revealing slight haemorrhage, which became more and more free as the clots were taken away. The dura mater, seen only fitfully, was at least a quarter of an inch deep to the inner table. The blood came from two directions, above and anteriorly, but no bleeding points could be seen. The skull opening was enlarged, but the haemorrhage, which was increasingly free, could not be traced to its source, nor more than temporarily checked.

By this time the removal of the clots and the copious bleeding had so relieved the pressure on the brain that the patient became less deeply comatose and even slightly restless. Considering the haemorrhage and original compression, it was decided to ligate the right common carotid artery. The skin incision here aroused considerable response, the patient struggling with both arms and both legs. The artery was tied in continuity and the wound sutured. The head wound was lightly packed and a dry dressing applied.

Throughout the day the patient remained unconscious, except about 4 p.m., when he swallowed some milk and uttered a few words.

Next day he was able to swallow fluids at intervals, and on the day following the packing was removed and the wound sutured, leaving a small gauze drain in the lower angle. He now spoke more often and more intelligibly, and was conscious most of the time. There was left-sided paresis and the right pupil was still widely dilated. Six days later the wound was completely closed, and in a week was firmly healed. During this interval the patient's condition steadily improved, speech becoming normal and the paresis much less; the right pupil was still somewhat dilated and very sluggish, but proptosis had disappeared. The hearing on the right side was slightly impaired.

Twenty-five days after admission he was allowed up, and was discharged from hospital a week later, the only remaining defects being a very slight weakness of the left limbs, slight impairment of hearing, and an almost undetectable inequality of the pupils. The temperature, which was 96.6° on admission, rose to normal after the operation and remained so during his stay in hospital.

I am much indebted to my colleague, Dr. W. J. Hamilton, for valuable advice and assistance rendered before, during, and after the operation, and, in conclusion, desire to

acknowledge Sir James Cantlie's kindness in permitting me to publish this case, which was under his supervision.

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ABSENCE OF UTERUS, FALLOPIAN TUBES, ONE OVARY AND VAGINA, WITH ONE LARGE CENTRAL KIDNEY.

A young Parsee woman, aged 17, was brought to me for consultation as she had not menstruated since attaining the age of puberty. At the age of 15 she had an acute attack of pain in the lower abdomen for two to three days, which was taken as a sign of her approaching menses. The attack, however, passed off without any result, and she had had no similar attack since nor any signs of menstruation.

The vulva was perfectly formed, the pubis well covered with hair, and the breasts well developed. There was no vagina except for about a quarter of an inch. On rectal examination a distinct tumour was felt a little above the closed end of the ill-formed vagina. This was believed to be the uterus, but no tubes nor ovaries could be felt. As the parents were very anxious to get the young woman married it was decided that an exploratory coeliotomy should be performed, as, if there was a septum dividing the vagina from the uterus, a communication might be possible. The usual abdominal incision was made under spinal anaesthesia; on opening the abdomen I found that the "tumour" felt from the rectum was a large central kidney, slightly horseshoe shaped, but placed low down. There was no ovary or tube on the right side, but a fairly large-sized ovary on the left, with a Fallopian tube running down and disappearing into the upper end of the closed vagina. There were several small cysts in connexion with the mesentery, which were removed without difficulty, and the abdomen closed without any further interference.

The young woman is healthy in all other respects, and has never shown any other signs of functional derangements.

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Reports of Societies.

ANGINA PECTORIS.

At a meeting of the Medical Society of London, held on October 13th, the President, Mr. V. Warren Low, in his opening address, referred to the advances which had been made in surgery during the war, and said that much of the time of the medical societies would be occupied for some years in digesting the war experiences and in seeing how far they applied to conditions of peace. A long period of clean surgery had found the surgeon quite unprepared for the septic wounds which were incidental to the war, and had led at first to much confusion of thought and to the abandonment by many surgeons of their customary technique. But as time went on the treatment of septic wounds became more standardized and the value of free excision of infected tissue and early suture of wounds had gradually become more recognized. The war had established beyond doubt the value of prophylactic injections of antitetanic serum and had demonstrated the existence of local tetanus, hitherto unknown. Advances had been made in the study of surgical shock, the researches on which would have a permanent significance. The conservative surgery which the exigencies of the South African war had imposed had been reversed under the novel conditions of the last war, early operation or exploration after intraperitoneal injuries having been shown to be the safe and proper procedure. It had been proved also that no mechanism which permitted operations under modified pressure was necessary in thoracic surgery. Opinions as to the wide field of usefulness of local anaesthesia had been fully justified. Great advances had been made in the treatment of fractures. Splints suitable for particular cases had been procurable; this close co-operation between surgeon and mechanic embodied a principle which should continue under peace conditions.

Dr. F. de Havilland Hall read a paper on Angina Pectoris with low blood pressure, during which he said that in the past it had been more or less assumed that high blood pressure was an invariable concomitant of angina pectoris, but in recent years attention had been directed to the occurrence of typical anginal attacks in the presence of low blood pressure. It was, however, possible that whilst the usual blood pressure was low, the cardiac attack might be accompanied by a rise of pressure; hence the relief which was sometimes obtained in these cases from the inhalation of amyl nitrite. In his experience the victim of angina pectoris had usually a blood pressure considerably above normal, and it was to an intensification of the already high pressure that an anginal attack was commonly due. On this occasion he directed attention to those exceptional cases in which anginal symptoms occurred in patients who had in the intervals a systolic blood pressure about or below normal. He had been struck by the failure of the drugs usually employed to give relief in these cases, and was convinced that a fatal termination might be accelerated if vaso-dilators were incautiously administered. The prognosis, always grave, was distinctly worse when anginal symptoms occurred in patients with a low blood pressure. The failure of nitrites to give relief in anginal pain was of bad omen, for it indicated myocardial degeneration and the tendency to death by sudden heart failure. He would insist that all indications of a failing myocardium—such as feebleness of the impulse, a feeble first sound at the apex, low blood pressure, a feeble infrequent pulse, dyspnoeic attacks, swelling of the feet, and signs of commencing oedema of the lungs—were of very grave prognostic omen, that these cases required a stimulating plan of treatment, and that vaso-dilators were useless, if not dangerous. Given in some cases of low blood pressure they might be tried, as they seemed to lighten the burden of the heart. But in these cases vaso-dilators must be used with great caution and not pushed, as an undue lowering of the blood pressure might be attended with disastrous results. It had been suggested that if within a minute or two nitrite of amyl failed to give relief a whiff of chloroform should be administered. He was doubtful of the wisdom of this procedure, especially in cases of low tension, and would prefer to give morphine subcutaneously. As a general rule, angina pectoris occurring in patients with low blood pressure required to be treated on different lines to cases in which it was associated with high blood pressure. An ounce of brandy in hot water might be given, or a mixture containing spirits of ether, aromatic spirits of ammonia, compound tincture of cardamoms in camphor water; this might be taken every half-hour for three doses if required. In cases of threatened collapse ether (m v) or camphor (gr. jss) in sterilized olive oil might be injected intramuscularly. In cases in which the chief symptom was pain, the only drug of any value was morphine in combination with atropine, which might be given in doses of $\frac{1}{4}$ to $\frac{1}{2}$ grain subcutaneously. The application of hot fomentations or of a hot-water bag to the precordium often afforded relief. If the feet were cold, hot-water bottles should be applied to them. In the intervals the patient should be dieted carefully, the amount of alcohol should be limited, and tobacco forbidden; excess in tea or coffee should be checked; dyspepsia and other conditions of lowered vitality should receive appropriate treatment. Among cardiac tonics no drug was so generally useful as arsenic; it might be combined with iron if the patient were anaemic. The addition of strychnine would help to improve the tone of the patient. Dr. de Havilland Hall supported his contention by reports of five cases. He also indicated the necessity for distinguishing between true angina and pseudo-anginal attacks occurring in neurotic individuals with low blood pressure, and recorded a case illustrating this point. Pseudo-angina was especially met with in excessive smokers. He had seen it occur in patients who had also abdominal angina.

In the discussion which followed, Dr. Alexander Blackhall-Morison said that in classical cases nitrites were of great value, but he doubted whether their action was peripheral, and regarded them as centrally acting stimulants. He questioned whether there was any etiological connexion between high blood pressure and angina. The cause of the pain was not known. He was in the habit of administering atropine, since he regarded angina as a variety of vagal inhibition of the left ventricle. Dr. Seymour

TAYLOR suggested that angina may sometimes be concerned with the right side of the heart, and there might then be high blood pressure in the pulmonary system. He agreed that amyl nitrite should not always be used, and with the treatment advocated by Dr. de Havilland Hall for cases with low blood pressure. He had also seen tincture of musk, the animal preparation, give great relief. Dr. RICKARD LLOYD spoke of the value of physical and psychical treatment. The patient should be placed in the position of greatest physical comfort, and his attention diverted, and no drug should be administered without good reason.

Reviews.

THE CONDITION AND WORK OF THE BLIND.

THE welfare of the blind is at the heart of many, and to these the book on the blind of the United States[1] by Dr. HARRY BEST will be of rare value in their work. The dedication of the work reads: "To those bearing the heaviest of human sorrows but in whose souls there shineth an everlasting light, and to those who labor for them with infinite courage and faithfulness." Dr. Best may be assured that his great labour—for the production of this work of his, even though it must have been a labour of love, must have been a great labour—will lighten the labours of the many who work for the blind, and in that way help the blind also.

The book deals only with the blind of the United States. But there is no part of the recital of the condition and prospects of the blind in that country which has not its counterpart in this. The conditions producing blindness; the nature of the work of the blind; the difficulties of their position, especially of their economic position; and the means taken to improve these conditions, are very much of the same order. So that it will be as profitable for a worker in this country to study this work as it must be for a citizen of the Republic. Such differences as are to be found in the conditions there and here will be illuminating rather than confusing.

The work is divided into seven parts, which deal successively with (1) the general condition of the blind, (2) blindness and the possibilities of its prevention, (3) provision for the education of blind children, (4) intellectual provision for the adult blind, (5) material provision for the blind, (6) organizations interested in the blind, (7) conclusions with respect to the work of the blind. There follow appendices giving illustrations of raised alphabets in use for the blind, information as to the schools of the States, homes for the adults and children, and industrial establishments. To each chapter of these several parts there is attached a most exhaustive bibliography, which includes references not only to American literature, but to publications in this and other countries. The whole work is admirably indexed and summarized in the "contents" pages. Some small defects may appear to the eye of the medical reader owing to statements which are natural enough from the pen of a layman, but these small blemishes do not in any way detract from the great usefulness of the book.

Perhaps the chapter which will prove of greatest interest to the general reader is that on "Popular conceptions regarding the blind." As relatively few are called upon to associate intimately with the blind, we can hardly wonder that there are abroad many and serious misconceptions both as to the capabilities and the mentality of the blind, misconceptions which are greatly increased by the representations of blind characters in popular romances. Until the blind child or man is understood, there can be little chance of meeting the difficulties of the situation. The suppositions that linger in popular imagination are singularly conflicting. Some consider that the blind dwell in a world apart from that of common clay, that they possess a peculiarly spiritual temperament, that they are exceedingly docile and tractable of disposition, and that they are beings of singularly pure and innocent minds. Others seem to forget that they are possessed of ears and reflecting minds, and speak of them in their presence with a strange thoughtlessness. Others treat them as though they were decrepit and even mentally deficient. Yet others credit them with a "sixth" sense — an almost miraculous power which enables them to outwit their sighted neighbours, not reflecting that he who is deprived of one sense must make up for the loss by cultivating others which each possesses but does not always trouble to realize. Again, how often are the blind referred to as the "unhappy blind," an ill-fitting appellation. We fail to realize that the blind are as human as ourselves, they are touched with the same passions and feelings as ourselves, and react to conditions of kindliness or hardness just as any one of us. It is no kindness to the blind to consider them a race apart; true kindness will seek to understand the likeness in them to our common humanity, and to cultivate the talents they possess to the greatest extent possible. We believe this book will help many to do this.

[1] *The Blind: Their condition and the work being done for them in the United States.* By Harry Best, Ph.D. New York: The Macmillan Co. 1919. (Post 8vo, pp. xxviii+763. 4 dols.)

CRIMINOLOGY.

MAURICE PARMELEE'S book on *Criminology*[2] is a comprehensive and documented study of a subject that is of interest to everybody, for everybody is a potential criminal, from the point of view of social control. The book is divided into six parts. The first deals with the nature and evolution of crime, the second with the factors in the environment that make our criminals—climate, season, weather, demographic factors, economic and political stress, and the like. The third part gives a description of criminal traits and types; reading it, one is again and again tempted to quote Horace to oneself—*mutato nomine, de te fabula narratur.* The fourth and fifth parts are concerned with criminal jurisprudence and punishment; as a humanitarian the author is in favour of abolishing the death penalty for murder, but, alas! fails to give his readers that excellent French argument for both its abolition and retention—*Que messieurs les assassins commencent!* Part six is given to a study of crime and social progress. The book is well written, and makes highly interesting reading; it illustrates very clearly the increasing attention and sentimentality with which the punishment of crime is regarded nowadays by many thinking and unthinking people.

[2] *Criminology.* By Maurice Parmelee, Ph.D. New York: The Macmillan Company. 1918. (Post 8vo. pp. xiii + 522. 10s. 6d. net.)

REVUE DE MÉDECINE.

THE publication of that old-established and well-known journal *Revue de Médecine* was at first curtailed, and eventually had to be suspended during the war. It has now reappeared in its thirty-sixth volume, and henceforth one number of about 120 pages will be issued each month. Its reappearance will be welcomed by all interested in progressive medicine, for it has been hitherto one of the chief organs of the publication of the brilliant clinical work that has distinguished French medicine during the last forty years.

The five years of the war have unfortunately wrought changes in its editorial staff: Landouzy has died, and R. Lépine has retired from its editorship, but the names of Roger, Pitres, Chauffard, and Vaillard on its title-page promise that it will attain the same high level that it reached in the past. The present editors recognize that certain changes have become necessary in the character of the articles that it publishes. In a foreword they point out that since its foundation medicine has become less academic and speculative but more physiological and social, and more account must be consequently taken of laboratory investigations and of the relation of bedside practice to hygiene and public health than was done in the past. The extraordinary development of specialities within recent years has also thrown upon such a journal as this the task of correlating and incorporating in the fabric of general medicine the advances of knowledge that have been acquired by such special branches. Reviews on special subjects will be consequently included from time to time, in addition to the original articles that will claim the bulk of its pages.

The special character of the journal can be best indicated by short notes on some of the articles that are published in the first two numbers of this new volume. Pitres and Verger deal with the medico-legal problems of the traumatic neuroses, mainly in relation to the psychoneuroses of war. The problems which arose from the French law of 1898, that gave the right of compensation to those injured in industrial employment, were more or less satisfactorily solved on the principle that compensation for functional symptoms should be granted at a much lower rate than for corresponding organic disabilities. But before 1914 there was no provision for the invaliding or pensioning of soldiers who suffered with neurotic symptoms. On the advice of the Neurological Society of Paris, the Ministry of War decided to refuse discharge or gratuity to soldiers with hysterical manifestations alone, and to reduce to the lowest possible scale the temporary pensions granted to neurasthenics who were unfit for either active or auxiliary service. The authors recognize that though this principle was undoubtedly harsh in many individual cases, it was unquestionably successful in maintaining the strength and moral of the armies. Now that the war has ended those that have remained uncured are entitled to more liberal treatment, though their pensions should be on a considerably lower scale than those allotted to equal disabilities of organic origin. A large part of this article is devoted to a discussion on the nature of hysteria. It is interesting that not even a reference is made to the Freudian views that have become so popular in England; they refuse, too, to accept Babinski's pithiatic theory, though they admit that the results obtained in the French army neurological centres, in which the modes of treatment were determined by this hypothesis, were surprisingly good. Even the majority of the recalcitrant cases that had accumulated in the base hospitals recovered quickly, and returned to active service at the front, when they were again sent to these neurological centres. And it is stated that recurrences took place in only a very small proportion of them.

In Lépine's article on the influence of the nervous system on glycaemia a large number of clinical and experimental observations are collected together. Injury of the floor of the fourth ventricle produces an excitation of the liver and also of the adrenals, and as it causes a polyuria, sugar appears rapidly in the urine. The effects of cerebral concussion are similar, but as polyuria does not occur glycosuria is rare. Injury of the upper cervical cord may produce a hypoglycaemia with glycosuria, while peripheral stimulation of the sympathetic nerves may result in a hyperglycaemia.

Bard devotes a long article to the significance of the abnormal reactions to galvanic stimulation of the labyrinths in cases with cerebral lesions; and Pélu and Daguet describe their careful clinical and radioscopic observations on the immediate and late results of serous pleural effusions. Pieron's long contribution to the cortical localization of sensation is much less satisfactory. The symptoms of two of the cases which he studied suggest very strongly the coexistence of hysterical complications, while in his third case the bullet that produced the cortical injury was embedded deeply in the centrum ovale. His method of arriving at conclusions by a rough mathematical averaging of the symptoms observed in a series of 21 cases by different observers and under different conditions is unexpectedly crude. His misquotation of English and American authors from reviews of their papers indicates that our medical journals have not the circulation in France which they deserve. Bouchut contributes an interesting clinical and pathological study on the severer types of influenza; he describes very fully an acute toxic form which invariably terminates fatally, and insists on the rarity of bronchopneumonia in contrast to the frequency to oedema of the lungs, purulent bronchitis, and lobar pneumonia. These two numbers also contain papers on the chronic pneumococcal lesions of the lungs which are so frequently mistaken for tuberculosis, on chronic malignant endocarditis, and on post-traumatic asthenia and mania.

One interesting feature of the journal is an abstract in English of the main points of each paper at its end, but unfortunately some of these translations into our language are so faulty and incorrect as to be unintelligible.

PUBLIC HEALTH MANUALS.

In *Food and Public Health*[3] Dr. William G. Savage deals with his subject in language so free from technicalities that even those who have had no medical or scientific training can grasp his meaning, and in so doing acquire a clear and balanced knowledge of food in its relation to the health of the community. There are probably few subjects about which the public are more apathetic or more easily misled by the faddist than in the matter of food. This little volume should be valuable to all who desire the latest and most accurate views on such questions as food as a cause of ill health or disease, chemical additions to food, bacterial diseases disseminated through foods, alcoholic and other beverages, milk and milk products, meat foods, foods of vegetable origin, and shell fish. The subject is wide, and the author is to be congratulated on the success of his survey, which in the space of 155 pages furnishes all essential information. The volume is attractively written, and is illustrated by eight half-tone plates.

In *Housing and the Public Health*[4] Dr. John Robertson, C.M.G., brings to a subject which is of paramount importance at the present time knowledge acquired, not only from books and departmental reports, but also from his long and practical experience as medical officer of health of Birmingham. Dr. Robertson is no pessimist, and his conviction is that not only the physical but also the moral condition of the people will be improved by the provision of better homes, since "no single condition in the lives of the masses has such a damaging effect on health or does harm in so many other ways as bad housing." For him the first essential is to secure a town-planning scheme so that amenity and convenience, no less than proper sanitary conditions, may be obtained. The workman's house of the future should, he says, always contain a parlour, a kitchen or living room, a scullery and larder on the ground floor, and on the first floor three bedrooms and a bathroom, with w.c. and lavatory basin. This to some may seem impossible of attainment, but with anything less there can be no proper fulfilment of the requirements of hygiene and decency. The planning of the streets and the provision of open spaces are, in the author's opinion, almost as important as the sanitation of the house itself, and we note without surprise that he is in favour of the self-contained house, and condemns the flat system as unsuitable for the rearing of children. In his references to the law relating to housing he indicates that the time is opportune for a consolidating and simplifying Act in which all references to the working classes—a very vague term—should be left out, so that local authorities when building may provide for the mixing of the classes in the areas which they control. A few of the points on which Dr. Robertson rightly lays stress are: limitation to twelve of the number of houses to the acre, the provision of a w.c. and a bath, the abolition of the back entry for refuse removal, and the general "lay out" of the area. The book is well written, and should be in the hands of all who are in any way concerned with the housing schemes which are now being undertaken by so many public authorities.

Practical Sanitation,[5] by Dr. George Reid, medical officer of health for Staffordshire, has reached its nineteenth edition. It is an extremely good and useful handbook, eminently suitable in every way to be the guide of the sanitary inspector. The text is based on a series of lectures delivered by the author himself at some previous date, and the new edition brings the whole work up to the standard of the present day, save only in the matter of some legal procedures not as yet confirmed by the new Ministry of Health. The illustrations are simple, and may be followed with ease, and Dr. Reid's long experience of the actual and practical detail involved in the carrying out of sanitary works, drainage schemes, etc., is a guarantee

[3] *Food and the Public Health.* By William G. Savage, B.Sc., M.D. Lond., D.P.H. English Public Health Series. London: Cassell and Co., Ltd. (Post 8vo, pp. ix + 155; 8 plates. 5s. net.)

[4] *Housing and the Public Health.* By John Robertson, C.M.G., O.B.E., M.D., B.Sc. The English Public Health Series. London: Cassell and Co., Ltd. (Cr. 8vo, pp. ix + 159; 12 diagrams. 5s. net.)

[5] *Practical Sanitation.* By Geo. Reid, O.B.E., M.D., D.P.H. Nineteenth edition. London: Griffin and Co., Limited. 1919. (Post 8vo; pp. xii + 367; numerous diagrams. 7s. 6d. net; postage extra.)

of the soundness of his teaching. Many more ambitious works dealing with this subject supply pounds of theoretical knowledge to one ounce of practice. In sympathy with the greater part of the rest of the community, Dr. Reid does not approve of the "demon plumber," and there is small doubt that many well thought out sanitary schemes would prove far more efficient in the working were the standards of skill and conscientiousness higher among all members of this trade. We are glad to learn from the author's preface that plumbers were to be found among those who attended his lectures, and cannot but hope that when the competence of both public and plumber in sanitary matters is greater the lamentable faults of the latter will be decreased. In fine, this is a valuable handbook, written with the pen of first-hand experience, and guided by a mind well trained in scientific thought.

BIOLOGICAL CHEMISTRY.

Professor Halliburton's *Essentials of Chemical Physiology*[6] is a practical manual that has been well known to medical students for the last quarter of a century, and is now in its tenth edition. The present issue has been brought well up to date yet remains a reasonably slim volume. Its author is to be congratulated upon the unusual skill he has shown in satisfying the two main requirements of students—fullness without overgrowth. More than two-thirds of the text are devoted to an elementary course of practical work in the physiological laboratory; the remainder is occupied with an advanced course and a number of appendices designed for the instruction of inquirers who wish to go further, and desire to learn the use of more complex experimental methods such as those for the determination of hydrogen ion concentration, or the use of Barcroft's differential apparatus for the analysis of the gases in the blood. The book is well produced and illustrated, and may fairly be regarded as indispensable by the medical student.

The continued progress of knowledge about the chemistry of the carbohydrates is well shown in the third edition of Dr. E. F. Armstrong's book on *The Simple Carbohydrates and Glucosides*.[7] It is written for chemists, chemical students, and general readers who have both a fairly up-to-date knowledge of organic chemistry and a keen interest in its advances. The chemistry of the carbohydrates comes into close touch with other sciences—physiology, botany, and zoology in particular—and Dr. Armstrong gives due weight to the connexions that have recently been made here by British, American, and Continental workers. The first and longest chapter in the volume deals with glucose, a third isomeric form of which has recently been recognized; while the last chapter, discussing the function of carbohydrates and glucosides in plants, is full of facts giving suggestive hints in a subject of the greatest practical as well as theoretical importance. The book is well written, and provides an excellent introduction to the study of the chemistry of the carbohydrates.

PROBLEMS OF FERTILIZATION.

Primarily a book for the zoologist, Professor F. R. Lillie's *Problems of Fertilization*[8] is a well written essay on a subject that should interest a far wider circle of readers, including physiologists and medical men. Beginning with a historical account of the subject, the author goes on to chapters dealing with the place of fertilization in the life-history, and its morphology, physiology, and specificity; he concludes that "while it is by no means certain that specificity in fertilization depends upon specific agglutination of the spermatozoön to the egg . . . the latter phenomenon furnishes an important clue for the further analysis of the problem of specificity in animals."

The last chapter deals with the problem of activation of the egg, whereby it is caused to develop; and here is developed a theory that some diffusible chemical "fertilizin" may be necessary for the process of activation, possibly identical with the agglutinating substance mentioned above. Professor Lillie includes and criticizes in his pages the work of many other experimenters in this field, notably that of Jacques Loeb; the little book forms most interesting reading, and may be warmly recommended to readers of the classes indicated above.

[6] *The Essentials of Chemical Physiology.* For the use of students. By W. D. Halliburton, M.D., LL.D., F.R.S. Tenth edition. London: Longmans, Green and Co. 1919. (Med. 8vo, pp. xi+324. 7s. 6d. net.)

[7] *The Simple Carbohydrates and Glucosides.* By E. Frankland Armstrong, D.Sc., Ph.D., F.I.C. Third edition. 1919. London: Longmans, Green and Co. (Roy. 8vo, pp. ix+239. 12s. net.)

[8] *Problems of Fertilization.* By Frank Rattray Lillie, Professor of Embryology, University of Chicago. Chicago: University of Chicago Press. 1919. (Cr. 8vo, pp. xii+278; 18 figures. 1.75 dols.)

NOTES ON BOOKS.

Dr. A. E. Collie's *Aids to Materia Medica*[9] is a little book in which the often perfunctory nature of the medical student's knowledge of drugs and doses is fully recognized, and an attempt is made to help him through the examinations of various British examining bodies by means of tabulation and mnemonic rhymes. It is divided into five parts, dealing with the examinations held by the Conjoint Boards in England, Scotland, and Ireland, the Society of Apothecaries of London, and the Apothecaries' Hall of Ireland, the bulk of the volume being based on the schedule of the first of these. It is well arranged and printed, and the mnemonic rhymes are average specimens of their class. On the one hand, such books as this may be regarded as the *reductio ad absurdum* of pharmacology; on the other, it may be argued with perfect justice that they supply a want felt by certain medical students. Their defects are really matters for the consideration of the framers of schedules and of examiners, rather than of the reviewer.

The fourth edition of Dr. Cumberbatch's *Essentials of Medical Electricity*,[10] revised and enlarged, gives the medical student and practitioner an excellent practical handbook dealing with a subject of no little importance. The volume has been enriched by a good account of diathermal treatment, and the chapter on the electrical testing of muscle and nerve has been reconstructed. The book may be warmly recommended to those in search of a trustworthy and intelligible introduction to a somewhat mysterious branch of therapeutics.

The fifth volume of the *British Journal of Surgery*[11] contains a number of interesting papers dealing chiefly with the surgery of war. The Editorial Committee is to be congratulated upon the success with which they have selected their contributors; a special word of praise may be given to the publishers for the number and excellence of the illustrations in this handsome volume.

Dr. F. Brett Young's novel, *The Young Physician*,[12] the work of a skilled novelist, describes the school days and professional education of a dreamy boy turned, willy-nilly, into a medical man, with grateful interludes of descriptive writing. The hero becomes qualified in the last chapter, and, thanks to the intervention of a hazel-eyed Rosie, signs on next day as a ship's doctor on the last page. We rather hope that he subsequently gave up medicine for some more congenial and less utilitarian occupation.

[9] *Aids to Materia Medica.* By Arnold E. Collie, M.A.Cantab., L.M.S.S.A.Lond. London: Baillière, Tindall, and Cox. 1919. (Fcap. 8vo, pp. viii + 116. 3s. net.)

[10] *Essentials of Medical Electricity.* By Elkin P. Cumberbatch, M.A., B.M., B.Ch.Oxon., M.R.C.P. Fourth edition, revised and enlarged. London: Henry Kimpton. 1919. (Cr. 8vo, pp. xv + 368; 76 figures, 11 plates. 7s. 6d. net.)

[11] *The British Journal of Surgery.* Vol. V. July, 1917, to April, 1918. Numbers 17 to 20. Bristol: John Wright and Sons, Ltd. 1918. (Sup. roy. 8vo, pp. 714; 687 figures. 36s. 6d.)

[12] *The Young Physician.* By Francis Brett Young. London: W. Collins Sons and Co., Ltd. 1919. (Cr. 8vo, pp. viii + 485. 7s. net.)

INFLUENZA IN SAMOA.

Value of Vaccines.

In a note published in the *Medical Journal of Australia* (1919, vol. i, p. 359) Surgeon Lieutenant Francis Temple Grey, R.N., M.B.Syd., who was the officer commanding the Samoa relief expedition, 1918, states that the epidemic arrived from New Zealand on November 7th, 1918, when natives from different parts of the group had assembled in Apia to meet friends coming from New Zealand; they went on board and carried infection to the most distant parts of the group. The incubation period was two days; the scourge reached its height on the tenth day. The ages most affected were from 18 to 35 and the old. The mortality was greater among men than women—in the proportion of 15 to 13. The incidence among the

natives was 80 per cent. Out of a population of 36,405 the deaths numbered 7,264. Surgeon Lieutenant Grey attributes the high mortality partly to the fact that natives, although apparently of fine physique, have generally a poor chest expansion, and to their habits. The native house has a raised floor of coral and lava pebbles, a thatched roof supported on poles, and no walls, but at the beginning of the epidemic, when a native fell ill he lay down in his hut, and his family, having pulled down the blinds, which are usually lowered only in wet weather, lay down with him in sympathy. When the fever was at its height, on the third day, the natives cast off their clothes, pulled the blinds up, and many of the men went into the sea to cool themselves. This was often followed by pneumonia, although, except in children, few cases, even with precautions, escaped bronchopneumonia. At the height of the epidemic many lives were lost owing to want of food consequent on the cessation of its collection. On December 8th, 1918, food collecting was resumed, and the decline of the epidemic was popularly dated from that. Bronchopneumonia and pneumonia were considered to be rather a part of the disease than complications, for only 5 per cent. adults escaped the one or the other. Bronchopneumonia usually set in on the fourth day, and in fatal cases there was marked dyspnoea, cyanosis, and delirium. Among the whites the incidence was put at 60 per cent., and the case mortality at 2 per cent.

We have received from Surgeon Captain E. T. P. Eames, R.N., Director of Naval Medical Services, Australia, a copy of a note by Surgeon Lieutenant Grey on compulsory inoculation against Spanish influenza. The writer, as stated above, was in charge of the expedition sent to combat an epidemic in British Samoa, where he had an opportunity of witnessing the behaviour of the disease on virgin soil. The full dose of the vaccine used by him contained 125 millions of *Micrococcus catarrhalis*, and 50 million each of pneumococcus, streptococcus, and a Gram-positive diplococcus. His experience showed Pfeiffer's bacillus to be unnecessary as a constituent of a vaccine directed against the epidemic. Immunity begins to "peter out" after the fifth week, and he gave a full dose (50 million each pneumococcus and streptococcus) every five or six weeks. Only the mildest reaction was observed. He did not inoculate children or the old, unless requested, as they appeared to have relative immunity.

He recommends compulsory inoculation on the first signs of the appearance of epidemic influenza, and that the inoculation should be repeated every month or six weeks. He claims that this will decrease the incidence of the disease, mitigate its severity, and reduce the mortality to a low figure. He advances the following evidence:

1. The entire ship's company of the man-o'-war which took my expedition to the islands was inoculated. Communication with the shore at the various ports was, as far as possible, avoided, but this ideal was not entirely attained. Not one case developed.

[The ship returned to Australia in February, 1919, and in the middle of March an epidemic broke out, producing by the end of the month about 100 cases, without any deaths. He considers that this is evidence that inoculations made at the end of November and end of December gave immunity up to the middle of March and rendered the disease when it broke out non-fatal.]

2. Every member of my expedition was inoculated at least four times in three months. Not a single case developed, although the risk of infection was no small one, when it is remembered that in Samoa alone one-fifth of the entire population was wiped out by the scourge. Two officers had an illness of four to five days not as severe as the so-called influenza of normal times.

3. An interesting experiment to test the efficacy of the vaccine was provided by the Governor of American Samoa, who sent, against the wishes of British Samoa, forty natives from Pago Pago (a clean port) to Apia during the progress of the epidemic. These were isolated, inoculated, and not released until judged to be in a positive phase. Not one contracted the disease, and the Secretary of Native Affairs, who knew their names and villages, reported all clear after a lapse of one month.

4. Ship's company and passengers of the steamer which brought the expedition from Suva to Sydney were inoculated without exception. We anchored in quarantine in Sydney, and on the second day a case was taken ashore. We remained on board, quarantined another week. Although the ship was very overcrowded, not another case developed.

5. The naval dépôt at Williamstown contains a floating population of about five hundred, half of whom live on shore, and the rest, of course, have a fair amount of shore leave. All hands have been inoculated twice in the last three months. Down to March there had been only fifteen cases, all mild except two, and no deaths. In March an influenzal epidemic broke out in the naval dépôt characterized by high infectivity, extraordinary mildness, and an average age incidence of 18.5; it caused 100 cases within a fortnight, but it was not clear that it was true influenza.

From the beginning of the year to the date of the note (June 20th, 1919) 2,875 ratings were victualled at the dépôt. There were 345 cases of influenza, five with pneumonic signs, but no deaths.

MEDICAL SERVICES IN INDIA.

THE Indian Medical Service, as is well known, is primarily a military service. At the time when the Royal Commission on the Public Services in India was taking evidence in that country the Service had a strength of 772 officers, of whom 475, or 62 per cent., were engaged on civil duties. Down to the beginning of April, 1915, 286 officers of the Service had been recalled from civil to military duty. The officers of the Service are partly European, partly Indian.

In addition to the Indian Medical Service other medical services are maintained in India by the Government. There is a service of Military Assistant Surgeons, which is recruited in India under the directions of the Director-General, I.M.S. Candidates are admitted on the result of an examination in general knowledge; those successful pass through a four years' course at an Indian medical college, the Government defraying the cost of their education and maintenance. Having passed the final examination they are placed for duty with British troops in station hospitals; eventually they may obtain employment as civil surgeons in certain stations. The pay began at Rs. 85 a month, rising according to rank and length of service, with a maximum of Rs. 400 a month. Recently the position of Military Assistant Surgeons has been improved and the pay increased in all ranks. At the present time the pay of Military Assistant Surgeons is as follows: 4th class (1st to 7th year) Rs. 100; 3rd class (8th to 12th year) Rs. 150; 2nd class (13th to 17th year) Rs. 200; 1st class (from 18th year to selection for promotion to senior grade) Rs. 250; a senior Military Assistant Surgeon with honorary rank of lieutenant, Rs. 350; with honorary rank of captain or major, Rs. 450. Military Assistant Surgeons in civil employ, whose duties relate to hospitals, sanitary and gaol work, can rise to civil surgeoncies, and after thirty years' service may receive as much as Rs. 800 a month. At the time of the Royal Commission the cadre of the Military Assistant Surgeons was 713, 424 of whom were on the military and 289 on the civil side.

In addition, there is a class of Sub-Assistant Surgeons, formerly called "Hospital Assistants," who also have a four years' course, their education being subsidized by the Government. According to the evidence given to the Royal Commission by the Bombay Medical Union in February, 1914, there were then 820 appointments, of which 135 were civil posts, but there were also other posts in the civil branch, the number of which is not stated. The salaries range from Rs. 35 to Rs. 110 a month after thirty years' service. Those on the military side serve with the Indian troops, those on the civil side in civil hospitals or dispensaries, in subordinate positions, their duties being of a minor nature. It is understood that the Government of India intends shortly to improve the position and pay of the Sub-Assistant Surgeons.

Finally, there are Civil Assistant Surgeons, who are medical graduates of Indian universities. Their curriculum lasts six years and its cost is defrayed by the student himself, although Government gives many scholarships. It is from this body that the resident house-surgeons and physicians of the principal Indian civil hospitals in presidency towns are chosen. A graduate of distinction of an Indian university may become an assistant surgeon when a vacancy occurs; he will be placed for duty in a subordinate position in a civil hospital, and may eventually obtain charge himself. From the body of Civil Assistant Surgeons are recruited the teachers and lecturers in many of the medical schools in India, appointments much sought after in India as in this country. In the Bombay Presidency in 1914 there were fifty-five appointments open to Civil Assistant Surgeons, all held by Indians. The salaries range from Rs. 100 a month to Rs. 300 at the end of thirty years' service, and they have the right of private practice.

We understand that improvements in the position and pay of Civil Assistant Surgeons also are in contemplation, and that an announcement regarding both classes may be expected before long.

MOTOR NOTES FOR MEDICAL MEN.

By H. MASSAC BUIST.

Points about the Paris Motor Show.

There is not very much to encourage the medical man in the exhibits at the first international show of passenger cars, tractors, pedal-cycles, utility motor vehicles, motor cycles and accessories opened at the Grand Palais, Paris, after an interval of six years. The display is thoroughly representative of the French industry, as well as of the Swiss. It shows, too, that the Italian and Belgian factories have got going again. The absence of German and Austrian cars is more than compensated by the increase of American exhibits; but the only names to represent the British industry are Austin, Cubitt, Daimler, Leyland, Sizaire-Berwick, Sunbeam, and Wolseley. One American manufacturer has boasted that, as he sells twice as many cars in France as any French maker, there is no occasion for him to go to the trouble and expense of exhibiting at the Grand Palais. That it should be possible for anyone to be able to make such an observation with even a shadow of truth sufficiently indicates the embarrassing situation in which the French industry finds itself after the great effort of the war.

Broadly, it has had to shun the problem of producing the cheap car. The new mass production Citreon car, mentioned in these notes early in the year, materializes tardily at this show, but at a price nothing like as modest as that originally mentioned. There are practically no examples available for report, nor is thirty-five cars a day "mass production" in the American sense. Thus new French manufacturing programmes are much akin to our own. As to the established French builders who made good in the pre-war period as well as during the campaign, Renault, the figurehead of the Gallic industry, still has the pluck to stick to the production of cars calculated to be of service to medical men; but he has had no option but to increase the price by approximately 50 per cent. Anyone who knows the circumstances of the European industry in this transition period will appreciate the great enterprise he has shown in keeping the price down as much as that. His raw materials are costing him at least twice as much as before the war—the actual rise in cost of all the materials that go to make a French car is 325 per cent.—and his labour is correspondingly dearer, therefore he must be using better manufacturing methods to be able to offer cars at such a relatively small increase in price.

These increases, however, are matters of the utmost seriousness to the medical man, whose income as a class does not average an increase of 50 per cent., far less 325 per cent., because there has been a war; but whose taxes have risen 200 per cent. or more. From his point of view, therefore, the Paris Salon, which is representative of the French industry and only suggestive of the motor industries of other countries, is a disappointment, particularly because it shows that the majority of French makers have shunned the problem of the cheap car and have taken the line of least resistance in these difficult times by making detail improvements of design on more or less conventional lines and improving the material and product in general without reference to cost, depending in the meantime on the fact that there is a ready market at any price for whatever they can produce that is worthy of their reputation.

The Inevitable Development of Brake Systems.

Of course, there are some new-comers, some of whom have ideas in design that are at least of passing interest, but the majority of this quite small group may be ignored. They will not survive the motor slump in a year or two, even if they go the length of reappearing in the Automobile Show at the Grand Palais in 1920, which is also doubtful. As far as the current exhibition goes it indicates that the future of the French industry rests with the firms we knew before the war. In the gross they have devoted attention to the larger and more powerful types of cars, which do not interest the medical man except where, in this detail or that, they suggest features of design which may presently be incorporated in cars of the sizes and power calculated to be of service to him.

For instance, there is a tendency, in the case of larger cars particularly, to furnish brakes to all four wheels on the Perrot diagonal control system proved successful on Argyll cars years ago, otherwise totally ignored by the British industry, and employed with amazing success by Peugeot and Delage in the Grand Prix race a month before war broke out. The front wheel brake becomes more and more necessary as cars grow lighter and engines are made more efficient. The application need not be confined to any class of vehicles. The objection always brought against it is that it brings complication and adds weight; but neither need be great, and there are many features incorporated in the standard chassis which could much more readily be spared than a correct and scientific solution of the problem of giving the driver the option either of reducing the braking strains on his tyres by half, or exercising in moments of emergency twice as much braking power as he has at his command by the conventional system of design in which the effort is applied to the back wheels only. Undoubtedly we shall presently have small cars with brakes to all four wheels. The medical man needs them to keep down his tyre bill, and to increase the safety factor, especially if his practice is in hilly country. Meantime such features are only available in the larger French cars, the lead of Peugeot and Delage being followed, for instance, by a no less notable firm, Hispano-Suiza, of aero engine achievement, in its new nominal 37.2 h.p. six-cylinder model.

Engine Features.

On the part of the leading firms there is some intelligent adaptation of aero experience, because they furnish evidence that they know precisely what features of aircraft practice not to apply to a proposition for car service. While these developments will presently become available in cars suitable in price and power for the medical man, at present both in this country and in France engines with aluminium cylinder castings and steel liners are chiefly being supplied to the more expensive cars, as instance the new six-cylinder Armstrong-Siddeley and the Napier post-war chassis, both with overhead valve engines, and the new Hispano-Suiza, whose producer's ability to design an aero engine may be gathered from the fact that the total production during the war was over 50,000 aero engines, of which over 33,000 were built in France. But Hispano-Suiza neither introduces an eight nor a twelve cylinder car engine; instead, it embodies aero-engine practice in a six-cylinder car engine. Against this we have in the exhibition one toy scale eight-cylinder engine of the V type by another maker who did not achieve distinction as a designer of aero engines; and we have some followers of the pre-war lead of Delage in making small six-cylinder engined cars, as the A.C. people are doing in this country with their post-war model. The fact is, to-day it is possible to simplify a six-cylinder engine so that it is no more formidable, from the owner driver's point of view, than the pre-war four-cylinder type. Of course it has a great advantage in acceleration, but we should do wrong to conclude that it will presently oust the four-cylinder type by reason of giving a better balance; one has only to make acquaintance with the post-war Vauxhall type with Lanchester balance gear to realize that by such means it is possible to give a four-cylinder engine all the smoothness characteristic of a six.

In the main, most of the improvements seen at the Paris Show are not for medical men, for the simple reason that they are embodied in the larger and more expensive vehicles. But they interest him indirectly, because the retainable new features of the most expensive cars of one year become embodied in smaller, moderate priced cars of next season or of the one after. Other features of the Paris Show—including the displays of vehicles of the smaller sorts by newcomers from the aircraft and aero engine industries, such as Voisin, Farman, and Le Rhône—will be touched on later.

M. Jean Louis Calvet of Béziere has bequeathed his estate, valued at £40,000, to the University of Montpellier, the interest to be applied annually for the best essay on the cure of cancer.

British Medical Journal.

SATURDAY, OCTOBER 18TH, 1919.

THE PREVENTIVE MEDICINE OF THE FUTURE.

Save for its housing activities, of which we have been told a good deal, little has been heard of the Ministry of Health since it came officially into being four months ago; but in future we may expect continuously to be reminded of its existence and its purpose.

The Ministry cannot hope to achieve all that it was established to accomplish unless it can carry with it public opinion, which needs instruction on the nature of the problems to be solved and the way in which their solution should be sought. It is too soon to ask for a statement of plans in detail, but not for a considered statement of the aspirations with which the Ministry is beginning its work. Such a statement is provided in a memorandum entitled "An Outline of the Practice of Preventive Medicine," addressed to the Minister of Health by Sir George Newman, K.C.B., M.D., chief medical officer of the Ministry. The author himself describes it as "fragmentary and provisional." This is too modest a claim; the memorandum is no doubt provisional, but so far from being fragmentary it is a comprehensive review of the development and present growth of preventive medicine, using that term in its most extended sense. We cannot profess now to examine the immense number of details which Sir George Newman has brought together in historical and logical sequence, but merely to give a general account of the scope and purpose of the essay, which will be found well worthy of careful study by all members of the profession.[1] In all that it does the Ministry must be able to command the support of the medical profession, and it will draw valuable inspiration from the Medical Consultative Council, the first meeting of which has been held this week.

The memorandum opens with a short section on the purpose of preventive medicine, which is defined as the science and art of applying human knowledge to the prevention of disease, its aim and purpose being "the removal of the occasion of disease and physical inefficiency, combined with the husbanding of the physical resources of the individual, in such a way and to such a degree that he can exert his full powers unhampered at home or in the workshop, over a reasonably long life, and with benefit and satisfaction to himself and all concerned. Its ideal is to restrict, subdue, and, in the far distant future it may be, annihilate the tendencies to marked variation in the healthy body of man. Its object is to prevent not only the spread of disease, but its occurrence: to remove its occasion. Its spirit must not be confined to sanitation or the 'public health' alone, but must pervade and inspire all branches of medicine." There follows a rapid sketch of the growth of medicine as knowledge and of the application of medicine, which together comprise the story of the rise of preventive medicine. Incidentally it is shown how the conception of prevention has widened, so that at the present day the problem is, first to rear and maintain a healthy race of people, and secondly, to continue the attack upon infection, and by co-ordination and education to develop the attack upon all forms of preventable sickness and invalidity.

Sir George Newman is not unaware of the difficulties in the way of the realization of this conception. Among these he puts first the need for synthesis and integration, maintaining that the predominant need, both in medical education and application, is simplification and integration—first, in the thought and understanding of the meaning and destiny of medicine, and secondly, in practice, reverting thus to a topic which was the subject of his memorandum on medical education in England. He shows that he appreciates the need not only of the cordial co-operation of the medical profession, but of a better instructed public; perhaps he might have written a little more strongly on the latter. He shows himself, indeed, a disciple of Sir James Mackenzie in calling for a more intimate personal study of the beginnings of disease, of its earliest signs and of its subjective symptoms; no laboratory experiment or mechanical device can serve as a substitute for this knowledge, but to attain it we have to enlist the instructed sympathy of the public. Concerning the possibilities of the prevention of infectious disease the public knows something, although the profession is aware of the great need for a better insight into the mysteries of epidemic incidence, a matter to which Sir George Newman makes some reference.

It is chiefly in the section on the prevention and treatment of non-infectious disease that we encounter some opinions and statements which are novel in an official report. It was to be expected that the author would instance the prevention of heart disease, of rickets, and of dental caries, but we welcome a short essay on preventive surgery, as to which it is said that there is no more remarkable instance of the association of preventive and curative medicine than the recent advance in orthopaedics under the leadership of Sir Robert Jones and his colleagues. The aim of this department of surgery is well expressed when it is said to consist of two parts—reconstruction by anatomical restoration, and re-education of function by means which are partly physical and partly mental. Sir George Newman, however, is bold enough to include in this part of his essay a consideration of the prevention of mental disease, and in another part he discusses at some length, under the head of "heredity and race," the doctrines of eugenics, including the encouragement of healthy parentage and discouragement of unhealthy.

We have referred to the necessity under which the Ministry is, if it is to succeed, of enlisting public co-operation, collective and individual. Sir George Newman concludes his notes on the education of the public in hygiene by stating: "One thing is certain; no substantial advance can be made in this country in the practice of preventive medicine apart from the will of the people, which can only be guided rightly by knowledge and practice in hygiene. We have witnessed a nation organized for war; we require a nation organized for the purpose of national health."

He recognizes, of course, the need for investigation in relation to preventive medicine, and quotes the words of the Act which laid down as one of the duties of the Minister of Health "the initiation and direction of research." In furtherance of this he mentions as one of the functions of the central medical administration its duty to aid in the gaining of knowledge and the prosecution of investigations, both for the advancement and application of medical science and by instituting a medical intelligence service. He

[1] H.M. Stationery Office. Cmd. 363. To be obtained through any bookseller. Price 6d.

knows, however, that though the Ministry of Health influences local authorities, in their hands will rest the main business of the execution of a national policy. He pleads for uniformity of administration in all comparable areas, and for a co-ordinated body of competent medical men charged with administration within the area.

Some space is devoted to a consideration of what is to be understood by "an adequate medical service." It would include clinics and dispensaries, hospital and residential institutions, and an improved dental service, as well as the maintenance and extension of auxiliary services, such as those rendered by the midwife, the nurse, the health visitor, the sanitary inspector, and the expert workers in electricity, massage and remedial exercises; but Sir George Newman wisely takes pains to point out to the public that the medical practitioner is the pivot, the anchor, and the instrument of a medical service. "If he is competent it has the first surety of success, if he is ineffective or ill equipped it must fail." He affirms also that the social and individual relation between doctor and patient is invaluable in the treatment of disease, and he has the courage to quote with approval the words of Sir John Tweedy when he said, "Any change, whether effected from within or imposed from without, that restrains the liberty or lessens the responsibility of a medical man, or hampers the free play of his intellectual activities, will be detrimental to the authority and usefulness of medicine, and prejudicial to the interests of public health and national welfare." What the central administrat on can best do is to provide a doctor with the means to help himself, through those agencies already mentioned, by increasing his facilities in the matter of laboratory equipment, consultant advice, and co-operation with medical neighbours, and also by the more general provision and better organization of post-graduate education. For too long, it is admitted, the practitioner "has struggled on against desperate, indeed almost hopeless conditions, without assistance, guidance, or co-operation which is readily available, without laboratory facilities, without nurses, without ample clinic and hospital accommodation." It is, says Sir George Newman, difficult to exaggerate the importance, both to medicine and the State, of the position of the practitioner. "No imposing institutes or hospitals will bring the healing art into the homes of the people; that can be done only by the practitioner." How true all this is, and how well it is to have such things said by the Chief Medical Officer of the Ministry of Health! But we cannot altogether forget that another branch of the same Ministry is marching to the rear with a banner inscribed "lightning diagnosis and cheap drugs."

THE NEW R.A.M.C. RATES OF PAY.

On September 13th, 1919, the new Royal Warrant was issued, laying down the pay and allowances for officers of the regular army, and in the Journal of September 20th (p. 401) we gave an account of the new rates and conditions for the Army Medical Service. We propose now to point out certain respects in which they are unsatisfactory.

It is officially stated that the new rates for army officers are granted in consideration of the present high cost of living, and will be subject to revision either upwards or downwards according as the cost of living rises or falls. Under former Pay Warrants the R.A.M.C. received special treatment, inasmuch as recognition was given to the fact that it is a specialist corps consisting of men who have had a long and costly professional training before they enter the army. In the latest Warrant this principle still obtains (though to a less degree) in the matter of full pay; but the rates of half pay and pension are now practically uniform throughout all branches of the service. It will be shown that this is detrimental to the R.A.M.C. Under the new scale of full pay a medical man who joins the R.A.M.C. at the age of 25, after an expensive professional education, will receive but a shilling a day more pay than a regimental combatant officer of the same age who has had five or six years' paid service and a much less expensive education. The general effect, therefore, of the Warrant will be to penalize the medical officer because he has spent some five years or more in learning his profession at his own expense. Hence the feeling of many officers of the R.A.M.C. that the new rates, unless modified in the near future, will have a disastrous effect upon the status of the corps as a whole.

The matter may be put more clearly by means of a hypothetical case: The elder of two brothers qualifies in medicine and joins the R.A.M.C. at the age of 25; the younger enters a line regiment at 19 or 20. The younger begins to draw pay as soon as he joins the army, and is eligible to retire on the same pension six years before the elder. This being so, it is asked, what will be the monetary inducement to a young man to take up medicine (as many have in the past) with a view to joining the service if he can do as well or better in the combatant ranks?

The chief grievance is in respect of retired pay. It is represented to us by many correspondents that the "rank element" of pensions is too considerable, and weighs unfairly against the medical officer.* Hitherto a R.A.M.C. officer, if he attained the rank of major, as in normal circumstances he did, has been able to retire on a pension of £1 a day after twenty years' service. This has been abolished. The scale of retired pay under the new Warrant applies alike to almost every branch of the service. In order to get an equivalent of the former pension of £365 a year a R.A.M.C. officer must reach the rank of lieutenant-colonel by the end of nineteen years' service; but in peace promotion as rapid as this cannot be looked for, and in the ordinary course of events it will take at least twenty-two years to reach that rank.

Under the new scale a R.A.M.C. officer retiring as a major after twenty years' service will only get a pension of £321 per annum (rank element £96, service element £225). He will be worse off as regards pension than the infantry officer who joins the army straight from school, since the latter will have served at least five more years, so that his service element would be £300, instead of £223, the rank element being identical. Another concrete example will show how this comes about. Let us suppose the case of two officers—one R.A.M.C., the other infantry, both promoted lieutenant-colonel at the age of 46. Four years later the infantry officer can retire with a pension of £600, while the R.A.M.C. officer will receive but £540 (rank element £240, service element £300). Should the promotion to lieutenant-colonel occur in each case at the age of 45 the disparity in pension is even greater, for at the age of 49 the infantryman will still get £600 a year and the R.A.M.C. officer £525.

We have taken the cases of officers of these ranks as illustrations, but it will be found that officers of

* It should be noted here that the gratuities formerly obtainable by majors have been replaced by pensions. Thus a major of fifteen years' service might retire with a gratuity of £1,800; he will now receive a pension of £186. A major of eighteen years' service received a gratuity of £2,500; he will now receive a pension of £255.

higher rank are under the same disadvantage. The reason is that the R.A.M.C. officer enters the army at a later age than the combatant. If we assume, as we may, that the average age on entry for R.A.M.C. officers is 25, and for infantry officers 19 to 20, the difference is seen to be at least five years. The main defects in the new Royal Warrant are to be traced to the circumstance that this fact has been ignored. We are quite clear that a blunder has been made, and that it must be speedily remedied if the R.A.M.C. is to prove attractive. Many of the points arising in connexion with the Warrant are complicated, and its provisions will demand very careful and detailed examination. The point, however, put forward here is so obvious and so important that we feel bound to call the attention of the War Office to it without delay, and to express as strongly as possible the deep dissatisfaction which exists. A fair remedy would perhaps be to credit medical officers with five years' service on entry, in fixing pensions.

THE AUTUMN PARLIAMENTARY SESSION.

The House of Commons will resume its sittings on Wednesday and the probability is that the autumn session will extend to Christmas. The expectation that the War Cabinet would be replaced by one to be representative of the principal departments, but with smaller membership than in the later pre-war period, has not been fulfilled. Mr. Lloyd George may, however, intend to make this change on the final ratification of peace. Some months ago Mr. Bonar Law intimated that it would take place in due course, and obviously the existing arrangement is anomalous for administration on a normal footing. Finance, Labour, and Ireland will largely occupy attention during the coming week. No decision has apparently been reached whether an autumn Budget shall be introduced to impose additional taxation for the current year; this depends probably in part on the conclusion of the Cabinet as to the amount of reduction in expenditure that can be promptly effected. Already the national expenditure is far in excess of what was reckoned for, and a large deficit faces the Chancellor of the Exchequer. The provision for the Army, Navy, and Air Services was made as for a time of transition, the total cost being put at £402,000,000. But, in view of the exigencies of the situation, a ruthless cutting of these services to bring down the cost perhaps to half is promised, and already orders have been given which mark a severe beginning. Nothing is yet known, however, as to what retrenchment can be obtained in the enormous demands for the civil services. The position is very grave, but the figures which appear week by week of the immense excess of expenditure over revenue are liable to mislead the public, for the two columns have no direct relation to each other; national finance could not, of course, ever be arranged to give weekly balancing of any value for information. It is the tremendous enlargement of national indebtedness, taking months together, that causes so much concern. Two Labour bills which have had first reading are to be passed within the session. These are the bill to establish a forty-eight hours' working week, and the bill to set up a commission to provide for minimum wages. The first main proposal excludes agricultural labourers and seamen from its scheme, and this excites opposition from the Labour party. The railway strike and the labour unrest generally must come under review, and it is thought that the Government will deem it necessary to bring forward a bill for the creation of a Trades Industrial Board for the settlement of dispute by arbitration—a body, that is to say, which should have larger powers than those to be possessed by the National Industrial Council, the scheme for which is already formulated, with the idea of getting industrial peace by agreement on lines of mutual arrangement. The report of the Sankey Commission on the nationalization of mines is almost certain to be taken as the basis for legislation which shall be either partial or complete. What is practically agreed upon is that mining royalties shall be acquired by the State subject to an allowance to be made for the provision of miners' cottages. It is uncertain whether in the present session the Government will produce a bill to carry out the policy of the Duckham minority report of the Sankey Commission, but Mr. Lloyd George has definitely stated that the Government policy follows these lines. The underlying principle is that the miners shall have a joint interest in the management of the collieries, which shall be grouped for control according to areas. Mr. Smillie, however, has declared that his union would rather have matters left as they are than that this arrangement should obtain in place of nationalization, and it is possible that the Government will leave the issue to be settled by referendum. Whether the Irish question will be dealt with in the present session depends upon what may come from the Committee of Ministers which, under the chairmanship of Mr. Walter Long, is to sit three days a week from the present week until it has produced the draft for a bill. There is no expectation that its conclusions, however broad, will satisfy the mass of the Irish people, but the real question is whether the proposal will be of such a character that Parliament may decide to pass them, and that then the Irish people, having the measure in operation, may find their salvation in working it out for themselves. The Indian Government Bill is another measure that will take up a considerable time, and some half-dozen more bills of a minor character on various subjects will have to take their chance, somewhat remote, of getting placed on the statute book before the session ends. It is understood that the National Health Services Bill is not likely to be introduced this year. Dr. Addison is too much engaged in transition work, in organizing the Ministry of Health out of the Local Goverment Board and other departments, to be able to undertake such a big additional responsibility at present. The housing problem must, moreover, absorb a good deal of his time, especially in view of the financial difficulties of providing brick houses, and the differences of opinion as to the value and virtues of wooden dwellings.

THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Medical men and students of medicine will now find all sections of the Museum of the Royal College of Surgeons, Lincoln's Inn Fields, fully available for study. During the greater part of the war the Council of the College placed the museum and its staff at the disposal of the War Office to help in the building up an exhibition of a collection of specimens to illustrate modern war wounds and their sequelae. Altogether 3,893 specimens were received from military hospitals, besides extensive series of skiagrams, casts, and models. Of the total number of specimens received, 1,204 were sent to the museum by the medical services attached to the Canadian and Australian expeditionary forces (506 Canadian and 698 Australian). All the colonial specimens were dispatched some months ago to Ottawa and Melbourne, where they are to be mounted, described, and preserved. The "national" or "imperial" collection now remaining in the care of the College consists of 2,689 specimens; of these, 1,390 have already been mounted, described, and placed on exhibition in the museum. There still remain 1,299 specimens in store, which are now being examined and prepared by Professor Shattock and Mr. Cecil Beadles. The Medical Research Committee has given financial and other assistance in the preparation of the collection, while the War Office has engaged Mr. Cecil Beadles to help in the completion of the task which Professor Shattock and he have so well begun. In the meantime the Council of the

College has assigned one of the larger rooms of the museum for the exhibition of the imperial collection pending the settlement of its ultimate destination. As our readers are already aware, the greater part of the contents of the museum were placed in vaults for safety during the time London was exposed to air raids. They have now been restored to their place in the museum, and many minor alterations and improvements have been effected in their arrangement and display. Numerous additions have been made to the College collection in recent years.

HEALTH IN INDUSTRIES.

It is pleasing to see that the report of the Chief Inspector of Factories is once more published at full length for 1918.[1] The experience of the war has been reflected in the conditions of industrial employment. The fact has been impressed upon us that "an increase in the ordinary hours of work does not necessarily mean an increase in production, that the more the comfort and welfare of the worker is studied and provided for the greater is the output." The war dislocated industries, and the long hours spent by munition workers in the factories, although necessary in the first years of the war, could not be maintained, and were reduced. The factory life of the workers during the crisis was made brighter and better by welfare supervision. Recently hours of work have been shortened and the shifts changed, with benefit in most instances to factory owners and the workers alike. There are three different systems in operation: (1) The one-break day system, under which work commences after breakfast, and only one meal-time is allowed; (2) the two day-shift system, under which work is carried on by two shifts of workpeople, each working from six to eight hours daily; (3) the five-day week system, under which no work is done on Saturday. Working hours have been reduced from fifty-nine to forty-eight hours a week, and although there have been many complaints in regard to breakfasting before commencing work, general experience is that the change is a step in the right direction. During 1918 there were reported 53,491 accidents due to machinery and 108,663 to other causes. The fatal accidents numbered 1,579. The figures supplied cannot be compared with those published before the war. Through the operation of "Safety Committees," suggested by the Home Office a few years ago, and upon which in the large industries the management of factories and the workpeople are represented, it is stated that in one factory alone the accidents dropped 50 per cent. Favourable comments are made on "labour saving appliances" and on the systematic training of workers in weight lifting. Many of the labour-saving devices were introduced owing to the large influx of women into the factories. Miss A. M. Anderson, Principal Lady Inspector of Factories, in reporting upon welfare in factories and workshops, draws attention to the good effected by rest rooms in factories where young female workers feeling faint, or with some minor ailment, can lie down for an hour or two. The subject of "welfare" is still in its infancy, and if it is to play the beneficent part expected of it in factory life, supervisors ought to be trained for the work. Ambulance, first aid, and continuation classes are fully considered in the report. The electrical inspector draws attention to the increasing use of electrical energy in the manufacture of highly graded steels and alloys. During the four years 1915–18 there were 99 fatal cases recorded, as against 70 for the years 1911–14. Of the 99 fatal cases 14 occurred in electrical stations of public supply, and the remainder on factory premises. Of the 99 fatalities, 95 occurred with the alternating system, 19 of them being on systems of less than 250 volts. The three-phase system was responsible for 47 deaths at voltages ranging from 346 to 440 volts. The total number of cases of lead poisoning notified during 1918 was 144 with 11 deaths, as compared with 317 cases with 21 deaths in 1917. Dr. Legge comments on the fact that remarkably few cases of plumbism occurred in the manipulation of shrapnel and bullets. This, Sir Thomas Oliver informs us, is his experience also. The actual handling of metallic lead is an infrequent cause of plumbism. Only 10 cases are reported for 1918. There was a recrudescence of "phossy jaw" in phosphorus workers all through the war, 1915–18; 3 cases of arsenical poisoning with 1 death are reported for 1918, and 72 cases of anthrax with 8 deaths.

[1] H.M. Stationery Office, Imperial House, Kingsway, London. Price 9d.

NELSON'S MEDICAL LIFE-HISTORY.

Nelson was one of those who, notwithstanding bodily infirmity, have writ their names large on the page of history. Like William III, whose life was a long disease, the strength and ardour of Nelson's spirit never failed to support his weakly frame whenever special effort was called for. The "little great man," as he was affectionately called by his friends, would have been rejected if he had offered himself as a candidate for the navy at the present day. His admission was due to the influence of his maternal uncle, Captain Maurice Suckling. But so poorly did that officer think of his nephew's fitness for the service that when reminded of his promise to take care of him he answered: "What has poor Horatio done who is so weak that he, above all the rest, should be sent to rough it out at sea? But let him come, and the first time we go into action a cannon ball may knock off his head, and provide for him at once." The high-spirited boy did not suffer this discouraging opinion to baulk him of his desire, and at the age of 12 cheerfully faced life in the navy, where the hardships at that time were trying to all but the strongest. Quite early in his career his health was broken by a long period of service in the East Indies and he had to be sent home. In the West Indies, in 1780, he had so severe an attack of dysentery that on his arrival at Port Royal he had to be carried ashore in his cot, and he returned to England in such a condition that the act of moving him to and from his bed caused acute pain. While still suffering from the effects of the West Indian climate he was sent to the North Sea, where he was kept a whole winter. At the siege of Calvi in Corsica, where Southey says the climate proved more destructive than the service, all the prevailing disorders attacked him, but, according to his own theory, he had not strength enough for them to fasten on. At Calvi gravel was driven into his right eye by a shot which struck the ground near him. He made light of the injury, but he lost the sight of the eye, and the vision of the other one was so much impaired that for the rest of his life he wore a green shade over his forehead to protect the left eye from the effects of strong light. It is thought probable that if he had lived a few years longer he would have become completely blind. In the attack on Teneriffe Nelson was shot through the right elbow in the act of landing. He refused all help in getting aboard his flagship, except a rope thrown over the side. This he twisted round his left hand, saying: "Let me alone; I have yet my legs left and one arm. Tell the surgeon to make haste and get his instruments. I know I must lose my right arm, so the sooner it is off the better." The amputation was followed by a great deal of pain; the ligature, which was of silk, caused much irritation and discharge, and there was scarcely any intermission of pain, night or day, for three months after his return to England, and he was driven to take laudanum to induce sleep. A curious example of the all-embracing power of red tape, even in the case of one who had done the State such service, is afforded by the way in which Nelson was treated by the clerical officials at the Admiralty in the matter of his wounds. Not having been in England since he had lost his eye he went to the Admiralty to receive a year's pay as "smart money," but could not extract the money from the clerk because he had neglected to bring a certificate from a

surgeon that the sight was really destroyed. Naturally vexed that this formality should not have been waived when, as he thought, the fact was sufficiently notorious, he procured at the same time a certificate for the loss of his arm. When he went again to the office the clerk, finding that the amount claimed was only the annual pay of a captain, said he thought it had been more. "Oh," replied Nelson, "this is only for an eye. In a few days I shall come for an arm, and in a little time longer, God knows, probably for a leg." At the battle of the Nile he was severely wounded on the head by a piece of langrage shot. A large flap of skin was torn from the forehead and hung over the eye with which he could still see, totally blinding him. At the approach of middle life Nelson suffered from gout, but he overcame the tendency to that disease by abstinence from animal food, wine, and fermented drink for nearly two years, restricting his diet to vegetables and milk and water. His health had suffered grievously in the Mediterranean; in describing his complaint he said, "It is as if a girth were buckled taut over my breast; and my endeavour in the night is to get it loose." After the battle of St. Vincent he felt the imperative need of rest, but as soon as he recovered sufficiently to resume duty he had to undertake work which entailed intense anxiety. The unrelaxed strain of his watch at Toulon, which lasted from May, 1803, till August, 1805, and his subsequent long pursuit of the enemy combined with the after-effects of his wound, brought him to the verge of exhaustion. On his way back to Italy he was attacked by fever, and for eighteen hours his life was despaired of. His health was so broken that he thought he could last only till after the decisive battle he felt to be impending. He was afraid of blindness, and though he was only 47, described his "shattered carcass" as in the worst plight of any in the fleet. At Trafalgar came the end. In the thick of the fight he was struck in the left shoulder by a ball fired from the mizzen-top of an enemy ship at a distance of not more than fifteen yards from the part of the deck where he was standing. The ball penetrated the chest and lodged in the spine. The immediate cause of death was haemorrhage into the cavity of the thorax from a wound of the left pulmonary artery. The account of his death given by Southey in his *Life* is supplemented in medical details by Dr. William Beatty, who ministered to the hero in his last moments, in his *Authentic Narrative*, published in 1807, and reprinted by Archibald Constable and Co. in 1895. Beatty thought that in spite of occasional illnesses Nelson might have survived to a great age but for the fatal shot from the *Redoubtable*.

HOSPITAL TEACHING UNITS.

We stated two months ago that certain London medical schools which have prepared schemes for the reconstruction of their clinical teaching had been officially informed that they could count on financial assistance through the Board of Education, based upon approved expenditure incurred in carrying out such schemes. In consequence, three or four of the medical schools in London have drafted schemes for the experimental application of the unit system. The current number of *St. Bartholomew's Hospital Journal* announces the establishment in that hospital at the beginning of the winter session of a medical and a surgical unit of the "professorial" type, with Sir Archibald Garrod and Mr. G. E. Gask, respectively, as directors of clinic. The directors will be whole-time officers, debarred from private practice, and each will have the help of an assistant director, a first and a second assistant, and two house-physicians or house-surgeons. The units will be provided with wards, with clinical laboratories and out-patient departments. A large part of the annual expenditure involved in the reconstruction has been provided by the Board of Education. The units will take their share in the treatment of patients and in the clinical teaching of the hospital. Professor F. W. Andrewes, F.R.S., will continue to be pathologist to the hospital and lecturer on pathology in the medical school. Dr. Mervyn H. Gordon has been appointed bacteriologist to the hospital, and lecturer on bacteriology in the medical school; the office of assistant pathologist, hitherto held by him, has been abolished. Dr. R. L. Mackenzie Wallis has been appointed chemical pathologist to the hospital.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

The annual general meeting of the Society of Medical Officers of Health is being held on Friday afternoon of this week at 5 o'clock. The president, Dr. H. R. Kenwood, C.M.G., medical officer of health for Stoke Newington and Chadwick professor of hygiene in the University of London, has been re-elected for a second term of office. Dr. George Reid, M.O.H. for Staffordshire, will read a paper on some pressing public health problems. The report of the council for the session 1918–19 states that, with the termination of the war, many members have resumed their share in the work of the society, but that a considerably larger membership is needed. The new articles of association were adopted in July last, thus opening the doors of the society to medical officers of every department of the Public Health Service. The council records that a considerable measure of success has followed the issue of the joint memorandum by the society and the British Medical Association, urging local authorities to increase the salaries of their medical officials by 33 per cent. in view of economic conditions arising out of the war. On October 15th the council of the society held a conference with representatives of various bodies of tuberculosis officers. The annual dinner will be held at 7.30 o'clock at the Café Royal, Regent Street, on the same evening as the annual meeting. This is the first dinner held by the society since the outbreak of the war, and the speakers will include Dr. Addison, Minister of Health, Sir Robert Morant, and Lieut.-General Sir John Goodwin, Director-General A.M.S. The programme for the new session includes a paper, on November 21st, by Dr. W. J. Howarth on eugenics in relation to public health; a paper in January by Dr. John Robertson on slums and their regeneration; and a discussion in March on tuberculosis.

MEMORIALS TO LORD LISTER.

The memorials to Lord Lister about to be erected at University College, London, will be unveiled on November 11th. Lister entered University College in 1844 at the age of 17, and worked hard at the preliminary sciences before he became a medical student at the beginning of the winter session of 1846. He held the appointments of house-physician and house-surgeon, and spent altogether nine years at the college and hospital. His earliest original investigations were made during this period. In the first, made during 1852, which was concerned with the muscular tissue of the iris, Lister demonstrated for the first time the presence of two distinct muscles, the dilator and sphincter. The second series of observations dealt with the involuntary muscular fibres of skin. Lister took the M.B. degree of the University of London and the Fellowship of the Royal College of Surgeons of England in 1852, and in the following September went to pay that visit to Syme in Edinburgh which had so great an influence on his life.

A series of demonstrations on diseases and disorders following lesions of the glands of internal secretion will be given by Professor Arthur Keith, F.R.S., at the Royal College of Surgeons of England, beginning on October 24th, when he will deal with acromegaly. The subject of the second demonstration, on October 31st, will be achondroplasia, and of the third, on November 7th, multiple exostoses. The demonstrations, which will be given at 5 p.m. on each day, are open to medical students and practitioners; first aid and ambulance students desirous of attending will also be admitted.

England and Wales.

The Health of the City of London.

The fame of the City of London, its immense commerce, its multifarious markets, and its importance in the international finance of the world, are so conspicuous that it is something of an anticlimax to read in the summary report for 1918 of its medical officer of health that its population is estimated to be only 13,900. The facts are, of course, first, that the work of the city is mainly done by people who do not reside there, so that its population during the working day is very large; and secondly, that the activities of the port of London do not come under the notice of the medical officer of health of the City. Dr. W. J. Howarth reports that there were only 101 births within the City. The infant welfare centre is now held at St. Bartholomew's Hospital, and 285 visits were made to the homes of newly-born children. The death rate rose from 15.6 to 20.9 per 1,000, owing mainly to the epidemic of influenza. The City maintains a tuberculosis dispensary, at which there were 2,399 attendances, but of these 1,723 were of persons not resident in the City. The work carried out at the centre for the treatment of venereal diseases has increased, additional equipment has been provided, and various alterations made. The number of new patients was 528. Of these 247 suffered from syphilis, 219 from gonorrhoea, 48 from both syphilis and gonorrhoea, and 14 from conditions other than venereal. Of this total 398 patients were normally resident in London, and 206 of these suffered from syphilis. Of the 247 patients suffering from syphilis who came under treatment for the first time in 1919, 144 were men and 103 were women; and of the corresponding group who suffered from gonorrhoea, 158 were men and 61 women. The number of patients who ceased to attend the clinic without completing treatment was, for syphilis, 36 males and 15 females; and for gonorrhoea, 12 males and 6 females. The number of patients discharged from the clinic after completion of treatment was, for syphilis, 2 males; for gonorrhoea, 5 males and 4 females. A good deal of work was done in the way of meat inspection; considerable quantities were condemned, including a number of carcasses and parts affected with tuberculosis. Remembering that London is a port with easy access to the North Sea, it is a little disconcerting to read that of the 121,424 tons of fish delivered at or near Billingsgate Market, only 153 tons were water-borne. Over 2,000 tons of fish were condemned as unfit for food.

Manchester Royal Infirmary.

The third of a series of Ellis Llwyd Jones demonstrations on diseases of the ear was given at the Manchester Royal Infirmary on Friday. This first course is being conducted by Sir William Milligan, aurist and laryngologist to the infirmary. Subsequent courses will be given by members of the staff of the throat and ear department. The number of entries for any one particular course is limited to ten.

Central Midwives Board.

At a meeting of the Central Midwives Board on October 9th, with Sir Francis Champneys in the chair, charges against four midwives were heard and reports on adjourned cases were considered. Three midwives were removed from the roll, the chief faults being those of neglect in cases of ophthalmia neonatorum and ruptured perineum, and continued inability to take and record temperatures. The Standing Committee reported that the Ministry of Health had taken steps to lay the representation as to the modification of the constitution of the Central Midwives Board before both Houses of Parliament; that the Ministry approved the grant of war bonuses to the secretary and assistant secretary, and sanctioned the appointment of Mr. H. G. Westley as secretary on the terms of the Board's resolution of July 24th, 1919. A draft of a letter which the London County Council proposes to send to midwives practising in the County of London, on the subject of midwives acting in co-operation with medical practitioners, was approved by the Board.

Scotland.

Medical Schools.

Both Edinburgh and Glasgow are overwhelmed by the number of students desiring to begin or resume the study of medicine. In Edinburgh it is estimated that as many students are being turned away as can be admitted at the present time; enrolments ceased some time ago, and it is doubtful whether all those desirous of entering can be admitted even a year hence. In Glasgow the accommodation in the schools is taxed to the utmost, and no new enrolments for the winter session are being accepted, except in the case of men returning from active service who had previously begun the study of medicine. The number of first year students is said to be 680, as compared with 612 last year, which was then the maximum. Arrangements for about 150 students are being made at the Royal Technical College, about the same number are attending the Anderson College of Medicine, and there are 60 at St. Mungo's College. For others there can be no admission to the medical classes until the spring. In Edinburgh also the first consideration is being given to the claims of service men, and with few exceptions the students commencing this session all belong to that category. Before the war the number of entrants was from 180 to 200; the applicants this year are much more numerous, but the accommodation in the university and the limited clinical facilities at the Royal Infirmary have made it necessary to limit the number of students in any one year to 350. A site for a chemical institute has been acquired on the southern outskirts of the city, near Blackford; the buildings will be begun immediately, and to them the whole of the chemical department will eventually be transplanted. The funds for this extension, estimated to cost a quarter of a million, have not yet been obtained. The scheme for establishing an institute of pathology and bacteriology in memory of Lord Lister has made progress. A site has been acquired close to the Royal Infirmary. In the promotion of this scheme the university is acting along with the medical corporations and certain other bodies. The new chair of therapeutics is a whole-time appointment, and the professor is commencing his duties this session.

We publish elsewhere in this issue a report of the address in which Sir Harold Stiles inaugurated his appointment as Regius Professor of Clinical Surgery, in succession to Professor Caird. At Aberdeen, where the classes in science and medicine opened last week, all are large. Professor Marshall, who has succeeded Professor Cash in the chair of materia medica, delivered an inaugural address, in which he spoke of the development of therapeutics.

General Medical Council Election.

Both Dr. Norman Walker (the sitting member) and Dr. Michael Dewar are prosecuting their candidature for election as direct representative of Scotland on the General Medical Council by addressing meetings of the profession in various parts of Scotland.

Dr. Norman Walker has held, or will shortly hold, meetings in Lanarkshire, Dundee, Aberdeen, and Inverness. He will address a meeting in Edinburgh on Wednesday next (October 22nd). Dr. Walker has insisted on the importance of the medical profession bringing its collective wisdom to bear on the problems of reconstruction. With regard to proposals for a State medical service he has expressed the view that, if that would mean that all medical practitioners were to be whole-time employees of the State, the times were certainly not ripe, and probably never would be. On the other hand, he has said that the State ought to co-operate with the profession in providing a more complete medical service, since medical science has advanced beyond the stage when any one practitioner can do everything that can be done for the health and recovery of all his patients. Events would, in his view, probably lead either to the provision of a whole-time staff of experts, organized as a branch of the civil or the municipal service, or the profession generally, with individual exceptions, would agree to undertake part-time service in

co-operation with the State, his own sympathy being with the latter alternative. His experience as convener of the War Emergency Committee, as chairman of the Central Professional Committee, as commissioner of medical services under the National Service Act, and as a member of the Highlands and Islands Medical Service Board, was that the best work is to be got from an organization in which there is a limited number of whole-time administrative officers, while the bulk of the work—that is to say, the essentially medical part of the work—is done by those whose official employment is part-time, and whose private freedom and initiation are otherwise restricted.

Dr. Dewar has spoken at meetings of the profession at Forfar, Dundee, and Inverness. His main points have been the desirability of electing a general practitioner, the reconstruction of the medical curriculum, the institution of the one-portal system, and the propriety of the compulsory inclusion of Latin in the entrance examination, with an additional language, preferably Greek.

Dr. Ebenezer Duncan of Glasgow has also issued an address. He urges that the time has come when the direct representative should be a man of large experience in general practice, resident in the western part of Scotland, but he also considers that the representative should have had some experience both of teaching in medical schools and of the examination of medical students.

Ireland.

THE PUBLIC HEALTH COUNCIL.

IN the JOURNAL of September 27th, p. 424, we announced the members of the Irish Public Health Council nominated by the Chief Secretary as Minister of Health for Ireland. The first meeting of the council was held on October 2nd, and the opening address by the chairman, Dr. E. Coey Bigger, is printed in this week's SUPPLEMENT. On the conclusion of the address, a vote of thanks to the chairman was passed, on the motion of Sir John Moore, seconded by Sir William Thompson. An informal discussion then took place regarding the nature and conduct of business to be transacted at future meetings of the council. The chairman explained that meetings would be convened by the Minister or himself when required, and generally speaking would be held at intervals of three weeks or a month, if not more often. In reply to a question by Dr. Maguire, the chairman said it would always be open to the council to invite or consider representations or opinions of the medical profession or of other organizations. It was agreed that it would not be desirable to admit newspaper reporters to the council meetings, but to furnish a summary of proceedings to the press. In a short discussion on new health legislation the suggestion was made that the council might consider the question of co-ordination of the functions of the various departments dealing with health under one department. In reply to a question as to the status of the Public Health Council, the chairman pointed out that the function of the council was to frame an Act for the improvement of the health services and conditions in Ireland, and this Act would probably involve some modification in the constitution and functions of the council. A statement upon the veterinary services in Ireland was read by Mr. Ewing Johnston, who was asked to prepare for a future meeting of the council a memorandum embodying in detail his proposals.

A HEALTH centre for school children has been fitted up in Madrid by philanthropic ladies belonging to the Comité Femenino de Higiene Popular. The children's hair is cut and their heads disinfected, and bathing facilities are provided. Teeth are attended to by a woman dentist.

DR. H. W. B. HERMES, associate professor of parasitology in the University of California, with a party of assistants, has completed a survey during the summer of the distribution of malaria-carrying mosquitos in California. The greater part of the summer's work was carried on in the San Joaquin Valley, but several weeks were spent in the mountains. The highest elevation at which malaria mosquitos (*Anopheles quadrimaculatus*) were met with at at any time during the survey was 5,482 feet.

Correspondence.

THE CURE OF CRIPPLED CHILDREN.

SIR,—The communication published in the BRITISH MEDICAL JOURNAL of October 11th, under the title of "The cure of crippled children," will, I hope, receive the widest publicity, for Sir Robert Jones and Mr. Girdlestone have referred to a subject of national importance.

In Ireland, as in Scotland, and in some parts of England, osseous tuberculosis is rife amongst the children. Under present conditions the great majority of these cases must receive indifferent treatment for a short period in city hospitals, and from thence be sent to convalesce into the city slums amidst poverty and squalor, or to country homes under conditions which make recovery wellnigh impossible. Later the cases reappear with deformities, and either die or pass into the ever-widening realm of crippledom.

Could it be but generally known that children so afflicted have a first-class chance of complete cure without any surgical operation, or, at least, have deformities effectually corrected, facilities would be provided, if not by the State, by sympathetic individuals or a charitable community.

Now is the time, by publicity and education, to stir the apathetic into action. All that is needed is an inexpensive hut hospital situated outside the city (this is essential), with adequate orthopaedic appliances.

Cases requiring long detention should receive school education during the currency of their treatment.

How many general hospitals at present (apart altogether from their deplorable unsuitability in other respects) are in a position to keep a cot occupied by one case for more than a few weeks?—a totally inadequate time to guarantee the patients from a miserable future.

Those who are sceptical about the wonderful influence of a country atmosphere and open-air wards in the cure of surgical tuberculosis in children should go and see for themselves what has been done in England and abroad in this direction, and compare the results with all other forms of treatment.

In Ireland, where there is a scourge of crippling tuberculosis in children, not one single country institution is available which in any respect fulfils the required conditions.

In 1917 I was in communication with the Local Government Board of Ireland and Sir Robert Jones on this subject, and I had hopes after an encouraging correspondence that some scheme might receive the financial support of the Carnegie Trustees. The war was too distracting to those who otherwise might have helped, but now there is no excuse for maintaining a condition of affairs which is not only inhuman, but a grave loss to the man power of the country.—I am, etc.,

Dublin, Oct. 13th. W. I. DE C. WHEELER.

TRANQUIL TRACHEOTOMY.

SIR,—Many years ago I employed a method practically similar to that advocated by Sir StClair Thomson in his interesting paper published in your issue of October 11th, in order to render the operation of tracheotomy as "tranquil" and as free from "mess" as possible.

The solution used for injection into the trachea was a 3 per cent. solution of cocaine hydrochloride, and mxx were injected through the anterior tracheal wall into the lumen of the trachea.

After employing the method in half a dozen cases I gave it up. From the aesthetic point of view it was perfect, from the practical standpoint dangerous. In most cases in which tracheotomy is necessary the pulmonary tissues are already water-logged, and the preservation of the cough reflex, although annoying to the operator and possibly to spectators, is a factor which makes for safety, enabling the patient to get rid of secretions which would otherwise collect and still further embarrass respiration.

Again, it is impossible in certain operations entirely to prevent the entrance of blood into the trachea. If the tracheal and upper bronchial mucosa are anaesthetic as the result of a preliminary injection of cocaine it lies there, coagulates, and for all practical purposes acts as a

foreign body, thereby increasing an already existing dyspnoea.

In the event of tracheotomy being performed as a preliminary to, say, thyrotomy for the removal of a malignant vocal cord, when, as a rule, there is no dyspnoea and no excessive secretion, the method may have some merit; but as a routine measure for all sorts and conditions of tracheotomies its advantages and disadvantages should, in my opinion, be very carefully weighed in the balance before being adopted.—I am, etc.,

Manchester, Oct. 12th. WILLIAM MILLIGAN.

STIFF KNEE IN COMPOUND FRACTURE OF THE FEMUR.

SIR,—Mr. Bernard Roth and Colonel Broome-Giles, commenting on Captain Alexander's paper, advocate, as a measure of prevention for fibrous contracture of the quadriceps in the treatment of fracture of the femur, the application of extension to the lower femoral fragment, thus permitting daily exercise of the muscles controlling the knee. The immediate practical problem is, however, the adequate treatment of these cases of stiff knee, whether resulting from unskilled treatment of the fracture, or from the inherent difficulties of certain cases.

Captain Alexander advocates: (*a*) The sandbag method until 20 per cent. flexion has been produced. (*b*) This is to be followed by wrenching under gas (or ether), with passive movement, massage, graduated electrical contraction, and voluntary exercise. (*a*) I have seen the sandbag method applied in a number of cases, and in the majority flexion to 20 per cent. was certainly produced, but this was mainly brought about by the elongation of the infrapatellar tendon and its lateral expansions. Thus, if the patient was made to extend the knee, one found he could not take up all the slack of the elongated tendon. (*b*) Wrenching of stiff knees or other joints is surely not good orthopaedic practice. "An ounce of voluntary movement is worth pounds of passive" has become an orthopaedic maxim. Captain Alexander admits the risks, but considers that they can be obviated by taking certain precautions. He, however, says, "the following day (after wrenching) the patient may complain of pain alongside the patellar ligament, and where the muscle scarring is most dense, and the knee may be slightly swollen." I have also found tenderness and pain at the insertion of the patellar tendon into the tibia, and have seen very marked swelling follow wrenching. Injury is thus caused by the wrenching, but are the intramuscular and extramuscular adhesions broken down? What results from the sudden forcible strain is injury to the tendon insertion, to the muscle (fibrous structures and muscle fibres), and to the joint structures. The injury is of a mild degree certainly, and Captain Alexander considers this justifiable since a greater degree of flexion is produced. But, as he points out, this flexion is not a real increase of range of voluntary movement—the patient after the wrenching cannot extend the knee beyond an angle of 165 degrees. Can adequate re-education of function be secured in these cases without continuous extensile strain on the quadriceps, or wrenching of the knee? I have treated a number of cases without recourse to either of these methods, and with fair results. The principles of the methods employed are based on those laid down by Dr. Colin Mackenzie, and Professor Amar—in his book on functional and vocational re-education of infirmities of the locomotor apparatus. They may be outlined as follows:

(*a*) If there is marked dense scarring binding down the quadriceps to the femur—as frequently happens—a plastic operation is usually necessary. This should not be undertaken until it is seen how much softening of the scar tissue and improvement of muscular power and range of movement can be obtained by non-operative measures.

(*b*) Voluntary exercise on the minimal or submaximal load principle is the essential means of "cure." As Captain Alexander points out, "an overworked muscle does not develop, it atrophies." The patient's skilled efforts can be greatly aided by physiotherapeutic measures.

(*c*) Contrast baths and massage before and after exercise are of distinct value. Diathermy or ionization does undoubtedly soften scar tissue. These measures, if skilfully used, help the patient to secure a longer habit length of the quadriceps.

(*d*) In the early stages, when the muscles are markedly weak, postural rest by suitable appliances is essential. The appliance should be worn continuously between periods of exercise, and should be discontinued only when the muscles are able to perform their postural function.

(*e*) Passive movement by the surgeon may help, as Captain Alexander suggests. Gradual slight strain by splints or the sandbag method is of help in stretching the contracted fibrous structures in the muscles. This strain should not be kept up for long, as it leads to muscular fatigue and even to injury of structure. At first, one to two hours a day is enough.

Flexion to 45 degrees at least is what is aimed at, but the increased range of movement is useless, even harmful, unless it is secured by a graduated re-education of function of all the muscles controlling the stiff knee. Recovery is by a process of adaptive growth in the injured muscles and other skeletal structures, and there are no safe short cuts in Nature's processes of growth.—I am, etc.,

Aberdeen, Oct. 2nd. CHAS. FORBES, O.B.E., M.B.

THE VENEREAL PREVENTION COMMITTEE.

SIR,—The establishment of a Venereal Prevention Committee, as indicated by the manifesto published in the JOURNAL of October 4th, is a practical step. Its practicality lies in the directness of its aim. Committees, societies, councils, and organizations have been formed for dealing with the venereal question before. The prevalence of syphilis and gonorrhoea at the present moment indicates how ineffective they have been. Their failings have consisted of want of cohesion, the indefiniteness of the goal for which they were striving, and differences of opinion as to the methods by which it should be reached.

Under the present conditions one must agree that in civil life early disinfection centres are inadequate, and will remain so until the conditions alter. The element required to make them effective is that of force. The only way in which this can be brought to bear is by legislation insisting upon compulsory notification and treatment. While in the army I proved the value of this. When acting as A.D.M.S. North Persia, and latterly when senior medical officer in Baku, the following measures were adopted:

Antivenereal propaganda among the troops was effected by weekly lectures by medical officers. The men were extremely receptive. Early treatment centres were established in each battalion, with a general one at the military hospital for those men who either did not belong to a battalion or who were diffident in approaching their own medical officer. I have published the results elsewhere; but it is sufficient to state here that, from being a serious problem, venereal disease became almost negligible.

My experience of the packet system has not been such as to make me an enthusiast. To the intoxicated man, the optimist, the careless person, or to the sexual athlete whose prowess outstrips his supply of medicament, packets are nearly useless if given before the act. To get the full benefit from the prophylactic packet its contents must be used with great care and thoroughness—two things remarkably absent from the make-up of the average soldier. A mere smear of calomel ointment in the dark to the outside of a redundant prepuce is futile. The main objections are due to ignorance and to want of training, and so can be remedied.

Since at the present moment compulsion cannot be used, there is, as the manifesto indicates, only one method left—namely, "immediate self-disinfection." The committee do well to concentrate upon this. What is wanted is energy, strenuous propaganda, and the arousing of a public demand that the means of disinfection should be made immediately available.

The male part of the population is primarily concerned, and the best place for written propaganda is undoubtedly on the walls of the public lavatory. I have already suggested that this should consist of something after the following style:

Venereal Disease.

Every time you have sexual intercourse with a woman who is not your wife you run the risk of venereal disease. You can avoid the disease in one way. In every public watercloset is an automatic machine. By putting a penny in the slot you will obtain a packet with the necessary materials. Apply them according to the directions and you will be safe.

Among the directions should be one pointing out the importance of the time factor, and recommending that if more than twelve hours have elapsed, recourse should be had to an early treatment centre or a medical practitioner. The main theme of the directions should be *thoroughness*.

One other point is that strict supervision should be exercised to see that the propaganda bills do not become defaced or illegible. They should be placed at the level of a man's eye where he is bound to see it. I took the trouble to measure the height at which some of the bills of the National Council for Combating Venereal Disease were placed in a railway lavatory, and they were almost eight feet from the ground. Few men would notice them.

The Committee for Venereal Prevention deserve the whole-hearted and energetic support of every member of the medical and lay public. Can they but secure the co-operation of the press and the various health authorities they will deal a severe blow to the gravest national menace.—I am, etc.,

London, Oct. 4th. E. T. Burke, M.B., Ch.B.

LOCAL CLINICAL LABORATORIES.

Sir,—May I say a few words in advocacy of the large laboratory "at a distance," which most of your correspondents are inclined to decry?

In the laboratory of which I am medical superintendent—I have no wish to advertise it, so do not give its name—the desirability of consultation between the clinician and the pathologist is always borne in mind. Forms are issued for brief notes on the clinical history of the case to accompany the specimen, which are nowadays almost always filled in by the sender, and when these are essential for an opinion on the clinical significance of the pathological findings, this is withheld until the doctor has been communicated with. In practice I do not find any real difficulty here, and the laboratory has 2,000 medical men and over 200 public health authorities on its books. Incidentally, the report on every specimen is signed by the actual observer, who is invariably a qualified medical man with clinical as well as pathological experience, so that the pathologist is a definitely responsible person. I admit that when specimens are sent to institutions where the reports are not signed by a medical man, there is no guarantee that the clinical significance of the findings is borne in mind; the work may be done by a laboratory assistant without the sender being any the wiser.

The main advantage of a central laboratory, however, lies in its size. It is obvious that the larger the output the greater are the facilities for accurate work and also for research, which is the life blood of pathology. It is also possible to install appliances that make for accuracy, the cost of which would be prohibitive to a small laboratory. Another advantage lies in the fact that many specimens require the work of observers who are skilled in more than one branch of pathology. How many local laboratories would be able to support a chemical pathologist, bacteriologist, and histologist? and yet all are often required for one specimen. How often is a really deep knowledge of all three branches contained in one man? In a large laboratory much useful work is done in consultation between these different members of the staff over the teacups when the tired eyes are rubbed and the welcome cigarette lighted.—I am, etc.,

September 22nd. Clinical Pathologist.

MEDICAL MEN IN PUBLIC LIFE.

Sir,—I hope medical men will not be discouraged from entering public life by the letter which appeared in your issue of October 4th signed by Dr. Edward Jepson. His experience of opposition by his confrères in Durham is quite contrary to mine in Swansea and Tunbridge Wells. In the former town, where I was a member of the council and the old school board, I had their best support, and when I left the town I was the recipient of a very handsome testimonial from them, which was presented to me at a dinner where such kindly and appreciative speeches were made that I am ever grateful to my professional brethren of that town and neighbourhood for their great kindness to me; and they filled up my cup of gratitude by giving my wife a beautiful bureau, in addition to the silver bowl which was handed to me by the chairman of the Division, Dr. Morris of Neath.

And now, when I have just been elected to the mayoral chair of Tunbridge Wells by a unanimous vote of the town council, the local Division of the Association has sent me its congratulations in a very warm-hearted manner.

I am sure, as I said in a previous letter to you, that any medical man who takes his part in public affairs will have the hearty support and kindly approval of his brethren.—I am, etc.,

Tunbridge Wells, Oct. 10th. H. A. Latimer, M.D.

THE PATIENT UNDER CAPITATION.

Sir,—Is it too late to reconsider our attitude towards the question of capitation fees in insurance work as opposed to fees for work done? A universal capitation fee may apper to some to be a *sine qua non*, to others a detail, which, having been settled once in principle, is not worth dragging again into the arena of medical politics. To both of these classes I would venture to appeal not to be satisfied to allow this question to remain as it is, for assuredly, to my mind, there is in this very policy an insidious germ which may eventually grow into a bond imprisoning the profession under State control. I am not here discussing the adequacy or otherwise of any particular fee which may be granted us, I merely want to point out the danger we run by blindly accepting the capitation principle.

The working of the National Insurance Act is differently viewed by doctors all over the country. In some places men are perfectly satisfied with it, in others the reverse; but can we honestly say that from the patient's point of view it is a success? I am afraid not.

When patients are catered for on a contract basis there is a lack of that stimulus to do our best which, however much we may deprecate it, tends to numb our conscience and tempts us to get through the job as quickly as may be and pass on to something else. Payment in advance has something of the same tendency and shares with contract payment this unenviable attribute.

To get into the habit of doing less than our best is lowering to the dignity of our profession, and I contend that the imposition upon us of the National Insurance Act has had that effect.

Turning now to another and even more serious aspect of the question, I am of opinion that contract work such as at present obtains knocks the bottom out of that kindly feeling which ought and used to exist between doctor and patient. We all know what this is, and I maintain that this relationship, this confidence, this power for good which the family doctor wields—an asset of incalculable value in our treatment of the sick—is jeopardized by the principle of contract service.

Before the Act (with some exceptions—club practice, etc.) every patient was a private individual, and in cottage work 2s. 6d. was a satisfactory if small remuneration. I believe it would have been better if we had worked the Act on these lines. We should have continued to be free, to give of our best, and our relationship with our patients would not have been disturbed. But we have chosen (or been driven) to accept in its place a form of service which undoubtedly has advantages from a time-saving point of view, but which, as I remarked, contains a dangerous germ. For are we not, by accepting this principle, making it easy for the authorities—by whom we are being ever more and more controlled and coerced—to still further increase that control, and as they spread the insurance net wider and wider to lead us finally to a State medical service?

I think we are, and I think, therefore, that we ought carefully to reconsider our position afresh before we are bereft of the moiety of freedom we still possess.—I am, etc.,

September 22nd. Anti-Contract.

ROYAL NAVAL MEDICAL SERVICE.

Sir,—The correspondent in your issue of October 4th (p. 454) very ably states the new conditions of naval medical pay. It was, however, not the pay that was criticized but the pension. In regard to the pension, his only remark is "the rates of retired pay have been substantially increased," a statement which all senior medical officers now serving hold to be untrue.

Now to consider this new pension scheme. The Admiralty has adopted the principle of equal pensions for all branches. If this carried with it something approaching equal oppor-

tunity for drawing the higher scales of pension there would be no criticism. Many of your correspondents have referred to this point, but no one has yet shown the injustice in a concrete and definite way. I therefore give the following figures as taken from a recent Navy List:

Executive Commanders:
2 in 3 attain Captain's list and higher pension of £900.
Paymaster Commanders:
1 in 9 attains Captain's list and higher pension of £900.
Engineer Commanders:
1 in 10 attains Captain's list and higher pension of £900.
Surgeon Commanders:
1 in 16 attains Captain's list and higher pension of £900.

This means that at present over 90 per cent. of surgeon commanders are retired on the lower pension of £600, and are classed for pension with the failures in the executive branch; for I do not think that any naval officer will deny that a commander at 50 is a failure professionally, although it may be due to reasons out of his own control, such as ill health, etc. There can never be this "equality of opportunity," as the navy will always require far more captains in proportion to commanders than surgeon captains in proportion to surgeon commanders.

It was probably owing to this lack of equal opportunity for higher promotion that a medical officer's pension in the past was relatively higher, and not to his supposed earning capacity ashore, which after the age of 50 is a rapidly decreasing asset.

If justice is to be done, the *maximum* pension of surgeon commanders should be raised 25 per cent.—that is, to £750 per annum.

I presume that something will be done to remove the present strange anomaly whereby a surgeon commander retiring at 54 with possibly thirty years' service receives only the same pension—£600—as one who retires at 48 with perhaps only twenty-one years' service.—I am, etc.,

October 18th. ANOTHER MEDICAL OFFICER.

*** We have received a letter on this subject from a correspondent who omits to enclose his card.

THE R.A.M.C. AS A CAREER.

SIR,—I read with great interest the address given by Lieut.-General Sir John Goodwin, K.C.B., and also your article on the subject of temporary commissions in the R.A.M.C., both of which appeared in the JOURNAL of October 11th.

The speech of the Director-General was excellent, and his description of the commanding officer of a military hospital is an ideal which ought to be realized under the present régime, for General Goodwin obviously recognizes the necessity of the medical officer of the future being "a good doctor" as well as "a good officer."

During my period of military service undoubtedly the best surgical division I was connected with was one which was in charge of a regular major R.A.M.C., who was also a F.R.C.S.Eng. One of the weak points in the administration of the Army Medical Service during the war, and one which to a great extent led to its unpopularity, was the fact that many of the senior regular R.A.M.C. officers, especially those who were re-employed, were so ignorant of clinical work that they were unable to judge correctly the value in a professional aspect of the temporary officers serving under them.

Now, why are medical men who have served in the R.A.M.C. not responding to the call and rejoining? I cannot see how they can be expected to do so; my experience is that those who have returned to their practices or civil appointments are much too busy to give the matter a second thought, and having obtained their "freedom," are not likely to give it up again. The R.A.M.C. was much too unpopular a service with the majority of temporary officers for many of them to care to rejoin. The reasons why it was unpopular with temporary medical officers are well known; the following may be mentioned: (1) The way in which they were treated by the senior regular R.A.M.C. officers and by the War Office; the want of consideration as to station, leave, duties, etc.; the small number of rewards (honours and mentions) given. As an example of the last, those temporary officers who served in Great Britain only will have nothing to show, not even the Victory Medal, although they probably worked harder than many did in France. (2) Their position with regard to the nursing staff. Temporary medical officers had no control over the sisters, in fact, were treated as their equals, and if any trouble occurred it was the medical officer who "went to the wall," for obvious reasons.

I have been seriously thinking of rejoining, but my age is over 40, and I do not feel inclined to serve again as a captain probably under men younger and less experienced than myself, and give up my present post for a period of six months, losing it in consequence.

If I were offered the rank of major, to which my service during the war fully entitles me, I would rejoin for ten years, and I believe there are others in my position who would do the same.

If the Director-General wants medical officers he must assure intending applicants that they will be treated with sympathy, consideration, and justice; for, after all, mistrust of the War Office is at the bottom of the present trouble.

The only remedy I can suggest for the present state of affairs is for the War Office to follow the example of the Admiralty. In 1897, when there was a shortage of naval executive officers, a number of experienced officers were entered from the merchant service as "supplementary lieutenants," with special pay and retired pay; they were employed chiefly as navigating officers, but I believe the scheme was quite a success.

If the War Office decided to enter a number of supplementary R.A.M.C. officers they might be employed chiefly in clinical work. I feel sure that the attempt to obtain a sufficient supply of temporary medical officers under the present arrangement is doomed to failure.—I am, etc.,

October 12th. NEMO.

"THE CULT OF INDIVIDUALISM."

SIR,—We regret the necessity of again asking for space in your columns, as we thought we had already explained in our previous letter the objects of the Federation.

We should like to point out in answer to Dr. E. R. Fothergill's letters, which appeared in your issues of September 27th and October 11th, that the Federation has not been started in antagonism to the British Medical Association, but simply to carry out a particular piece of work which that Association for some reason or another has not undertaken.

With regard to Dr. Fothergill's second and third questions, we would state that no powers are sought, but that the aim of the Federation is to achieve unity in the profession as a whole, and to co-operate with other bodies of an ancillary nature.

We wish to correct an error which, by inadvertence, appeared in our letter published in your columns of October 11th. We therein stated that the chairman of the Federation was not present at the Steinway Hall meeting, whereas he was present during the early part of the meeting, but left early, and took no part in the formation of the Medical Parliamentary Committee.—We are, etc.,

MALCOLM MORRIS,
Chairman.
CHARLES BUTTAR,
Honorary Secretary.
N. HOWARD MUMMERY,
Organizing Secretary.

The British Federation of Medical and Allied Societies,
20, Hanover Square, W.1, Oct. 14th.

THE BRITISH FEDERATION OF MEDICAL AND ALLIED SOCIETIES.

SIR,—"What actually took place" at the Steinway Hall meeting can hardly be stated by persons who were not present, and when the representatives of the British Federation who write in your issue of October 11th enter on this field, they deal not in evidence but in hearsay. I will not presume to pit my memory against their information, but will refer your readers to the accounts of the meeting which appeared in the medical journals of October, 1918. There it is plainly stated that the committee (1) was appointed "to further the election of medical men as members of Parliament," and (2) was directed "to report to a subsequent general meeting of the profession." The committee has not discharged this reference, nor has it reported to a "general meeting of the profession." To say that it has done a number of things for which it had no authority, or that it sought some tribunal other than that to which it was pledged, cannot

redeem its neglect of the one thing for which it was appointed; indeed, these unauthorized adventures are an additional condemnation. If the British Federation endorses and approves this curious fashion of dealing with pledges publicly given it is well to have the fact on record. It is suggested that now the federation is in existence nothing relative to its origin matters. But surely it is important to know of any organization whether it cultivates a high standard, or a modest one, in the interpretation of its promises.

Until the Steinway Hall committee has either met its obligations, or has acknowledged its negligences and excesses, the British Federation cannot escape the shadow of this unhappy association. It is not, Sir, the irregularity of its birth which mainly excites suspicion; the flaw is rather in the qualified record of some of its sponsors.—I am, etc.,

London, W., Oct. 14th. C. O. Hawthorne.

RELEASE OF R.A.M.C. TEMPORARY OFFICERS.

Sir,—In the hope that you may still be interested in the lot of temporary officers R.A.M.C., I send you an account of my own case at the least possible length.

My age is 33, and I am single. I have been on foreign service continuously since the beginning of April, 1915. In civil life I was assistant to a general practitioner, with a view to partnership. The position has been kept open for four and a half years by my principal, who has himself been on foreign service. Applications for my release have been made once by the Local Medical War Committee, thrice by my partner, and thrice by myself.

I am at present employed in the army as one of four medical officers at a special centre with less than 200 beds, but I am not employed as a specialist. My average hours of work during the past nine months have been one and a half a day.—I am, etc.,

September 24th. A. A. A.

THE INQUIRIES OF LIFE INSURANCE OFFICES.

Sir,—Lately I have had a number of applications from different assurance companies asking for an answer to a series of questions in reference to patients whom I have attended. These questions are of a searching character, and seem intended to do away with the ordinary medical examination conducted by their own medical referees, though this is not an aspect with which I am concerned at present. What I do wish to ascertain is the feeling of the medical profession in regard to these inquiries.

I may say that, so far, I have refused to answer them without the express permission in writing of the patient; this, with one exception, has been given.

I should much like the opinion of the profession at large as to what line should be adopted.

(1) Whether it should be absolutely refused as a matter of vital principle in our dealings with our patients; or

(2) Whether we ought to answer the queries, and so give information of a most intimate character to the insurance companies that they could not possibly obtain by any other means, thus jeopardizing the chance of insurance of those who have trusted us.

My feeling is to refuse absolutely, though I have supplied the information in several cases after receiving the written permission of the patient to do so, but I hate it.

I have always been offered a fee of half a guinea, this I refuse, and ask for a guinea fee, which has always been paid.—I am, etc.,

Preston, Oct. 11th. Charles Rigby, M.B.

SCHOOL MYOPIA.

Sir,—In his letter on school myopia Mr. Bishop Harman states that he has evidence at his disposal that close eye work produces myopia. May I invite him to publish this evidence?

Some of us who have worked for years at this subject have been unable to reach this positive conclusion.—I am, etc.,

Glasgow, Oct. 8th. Jas. Alexander Wilson.

The Services.

HONOURS.

The following honours and promotion have been granted for war services; the appointments are dated June 3rd, the King's birthday:

To be K.C.M.G.

Temporary Major-General Sir Bertrand E. Dawson, G.C.V.O., C.B., A.M.S.

Colonel and honorary Major-General R. F. S. Henderson, C.B., retired pay, late R.A.M.C.

To be K.B.E. (Military Division).

Captain and Brevet Lieut.-Colonel (temporary Colonel) Sir Harold J. Stiles, R.A.M.C.(T.F.).

Lieut.-Colonel W. Thorburn, C.B., C.M.G., R.A.M.C.(T.F.).

Lieut.-Colonel E. N. Thornton, C.B.E., S.A.M.C.

To be Honorary Colonel under Article 77 Royal Warrant.

Lieut.-Colonel A. E. Morris, retired pay, late R.A.M.C.

Order of the British Empire.

The following promotions and appointments to the Order of the British Empire have been awarded in recognition of distinguished services rendered during the war in the Royal Air Force:

C.B.E. (Military Division).—The late Major Archibald Henry Hogarth, O.B.E.; Miss Josephine Letitia Denny Fairfield, M.D.

O.B.E. (Military Division).—Major Edward Cecil Clements, R.A.M.C.(T.).

The following are the statements of services for which the decorations announced in the *London Gazette* of March 8th, 1919, were conferred (continued from p. 482):

Bar to the Military Cross.

Temporary Captain John Rodger, M.C., R.A.M.C., attached 1st Battalion Border Regiment.

For conspicuous gallantry and devotion to duty. During the attack, October 3rd to 8th, 1918, on Gouy and Le Catelet, he was in charge of bearers and forward posts. Under considerable shell and machine-gun fire he went forward visiting regimental medical officers, reconnoitring for forward posts, and supervising the evacuation of wounded from the forward area, keeping up a complete chain of evacuation. By his energy and zeal he saved many lives. (M.C. gazetted September 16th, 1918.)

Captain (acting Major) James Bethune Scott, M.C., R.A.M.C. (S.R.), attached 16th Field Ambulance.

For conspicuous gallantry and untiring devotion to duty during operations near St. Quentin, between September 18th to 26th, 1918. He was bearer officer with the 16th Infantry Brigade. He personally kept touch with the regimental aid posts in spite of heavy hostile machine-gun and rifle fire. It was mainly due to the skilful dispositions of his bearers that the wounded of this brigade were evacuated so speedily and satisfactorily. (M.C. gazetted October 18th, 1917.)

Temporary Captain David Campbell Suttie, M.C., R.A.M.C., attached 1/2nd (North Midland) Field Ambulance.

Near Bohain he had charge of the bearers and bearer relay posts along the Bohain-Vaux Andigny road during the attack on October 17th, 1918. He used great skill and judgement in choosing his bearer posts, and also in keeping in touch with regimental medical officers in front. He set a fine example to his men by his fearless devotion to duty, and it was mainly through his efforts that the great majority of the wounded were brought in to the advanced dressing station. (M.C. gazetted January 1st, 1917.)

Temporary Captain Gwelym David Watkins, D.S.O., M.C., R.A.M.C., attached 2nd Battalion West Riding Regiment.

During the operations on October 24th, 1918, on the high ground east of Verchain, he displayed great courage and devotion to duty in establishing his aid post as close as possible behind the front line troops. Very shortly after the first objective had been gained he proceeded to search for wounded with organized stretcher parties under continuous shell fire; and by his prompt attention and splendid organization many lives were undoubtedly saved. (M.C. gazetted January 1st, 1918.)

Temporary Captain William Brockie Wilson, M.C., R.A.M.C., attached 1st Battalion Devon Regiment.

For gallantry and devotion to duty during the operations near Braistre, October 20th to 23rd, 1918. During this period his battalion came under very severe enemy shell fire and a very severe gas bombardment. He worked unceasingly for thirty-six hours in his regimental aid post, where the gas was strong, and it was absolutely due to his pluck and inexhaustible energy that the evacuation of the casualties of two battalions was carried out without a hitch. (M.C. gazetted December 2nd, 1918.)

Military Cross.

Captain Leslie Thomas Alsop, 10th Field Ambulance A.A.M.C., attached 39th Battalion, Australian Infantry.

On September 29th, 1918, east of Ronssoy, he established a regimental aid post close to Gillemont Ruins, then held by the enemy, and, under heavy fire, tended the wounded. For forty-eight hours he was continuously at work organizing stretcher parties and dressing the wounded.

Captain Joseph Ringland Anderson, Australian A.M.C., attached 45th Battalion, Australian Infantry.

For conspicuous gallantry and devotion to duty during the attack west of Bellenglise, north of St. Quentin, on September 18th, 1918. During a protracted advance he established his regimental aid post well forward in the open, and continued with cool courage to attend the wounded under heavy shell fire. His efforts saved many lives.

Captain (a/Major) Henry Merril Barrett, No. 2 Field Ambulance C.A.M.C.

During September 27th, 28th, and 29th, 1918, he was in charge of clearing and evacuating wounded, during Bourlon Wood operations. During this period he displayed cool courage under fire and keen devotion to duty, establishing his advanced dressing station close to advancing infantry, and making reconnaissances of forward roads under shell fire, thus enabling ambulances to get forward and save life.

Temporary Captain Harold John Bensted, 140th Field Ambulance, R.A.M.C. (attached 138th Field Ambulance).

For gallantry and untiring energy during the period October 16th to October 20th, 1918, and attacks delivered in the neighbourhood of Courtrai. He personally directed the collection and evacuation of wounded from regimental aid posts of different units. On one occasion he worked continuously for forty-eight hours, maintaining touch with regimental medical officers and forming new lines of evacuation of wounded under most difficult conditions of open warfare and rifle and machine-gun fire.

Temporary Captain Gideon Albertyn Beyers, S.A.M.C., attached 1st Battalion, South African Infantry.

During the operations from October 8th to 19th, east of Beaurevoir, and at Le Cateau, he showed great energy and gallantry in attending the wounded under heavy shell and machine-gun fire. On October 8th he worked incessantly for nearly twenty-four hours attending to a very large number of cases. On October 17th to 18th he again did splendid work, and did not spare himself in any way, and was the cause of saving a great number of lives.

Captain William Johnstone Binns, A.A.M.C., attached 33rd Battalion, Australian Infantry.

For conspicuous gallantry and devotion to duty during the operations near Bony, from September 29th to October 2nd, 1918. Throughout he was untiring in his efforts, and worked with the greatest zeal. Altogether he established four different aid posts, all close to our leading troops. He attended wounded in the open under heavy fire, and by his fine devotion to duty saved many lives.

Temporary Captain Gavin Stiell Brown, R.A.M.C., attached 1/4th Battalion Leicestershire Regiment, T.F.

For conspicuous gallantry and devotion to duty whilst tending wounded on the morning of the attack of September 29th, 1918, near Bellenglise, under very heavy shell fire. He showed an absolute disregard for personal danger, both at that time and subsequently during the action.

Temporary Captain (acting Major) Samuel Burnside Boyd Campbell, 108th Field Ambulance, R.A.M.C.

For conspicuous gallantry during the attack east of Ypres on September 29th, 1918, and subsequent days. He was in command of all the stretcher-bearers of the divisional field ambulance for twelve days, and the fact that all wounded were rapidly collected and cleared was largely due to his energy and efficient organization. Throughout he showed fine devotion to duty.

Temporary Captain John Sawers Clark, R.A.M.C., attached 15th Battalion Royal Irish Rifles.

For conspicuous gallantry and devotion to duty. On October 14th, 1918, near Dadizeele, his aid post was partially blown in and the entrance blocked. He at once set to work under shell fire, and cleared the entrance and removed the wounded who were there to a safer place. Throughout he behaved splendidly in attending and helping the wounded under the most trying conditions at all times.

Temporary Captain George Oliver Connell, R.A.M.C., attached Head Quarters Royal Engineers, 41st Division.

For marked gallantry and devotion to duty at Courtrai on the night of October 19th-20th, 1918, when he went forward with a field company of Royal Engineers to the bank of the River Lys, remained with them throughout the bridging operations, and though in an exposed position and subjected to intense enemy shelling, dressed the wounded, and by his fine devotion to duty saved several lives.

Captain Lambert Douglas Densmore, C.A.M.C., attached No. 1 Field Ambulance.

For conspicuous gallantry and devotion to duty during the Bourlon Wood operations, September 30th, 1918. He went forward to collect and evacuate considerable numbers of wounded who were lying in the vicinity of the Douai—Cambrai road, east of Heynecourt, and succeeded in evacuating them to the advanced dressing station.

Temporary Captain Cedric Lewis Dold, R.A.M.C., attached 1st Battalion South Wales Borderers.

Throughout the operations near Pontruet and Thorigny, on September 29th to 30th, 1918, he carried out his work with great gallantry and devotion to duty. He constantly visited the front line under heavy machine-gun and shell fire to personally superintend the evacuation of the wounded, and never spared himself for a a moment in anything that could promote the welfare of the battalion.

Temporary Captain (acting Major) James Angus Doull, 103rd Field Ambulance, R.A.M.C.

For conspicuous gallantry and devotion to duty on October 14th, 1918, as divisional bearer officer. He personally directed the clearing operations, and, by his powers of organization, successfully cleared over 400 casualties. He kept in close touch with all regimental aid posts situated in the vicinity of Gheluwe and the area east of the village, conducted bearer reinforcements, and encouraged his detachment to further efforts under constant heavy shell fire.

Temporary Captain (acting Major) Stanley Fenwick, 16th Field Ambulance, R.A.M.C.

For conspicuous gallantry and devotion to duty during the operations near St Quentin, September 17th to 26th, 1918. He was in command of a field ambulance which was evacuating from a divisional front. Under heavy shell fire he supervised the removal of patients to a place of safety, thereby saving many lives. He also visited all posts of the line by day and night, controlling and directing the bearers in their duties of evacuation.

Captain Albert Grant Fleming, C.A.M.C., attached 4th Canadian Infantry Battalion.

During the attack of September 27th, 1918, he displayed great gallantry and devotion to duty. He established his aid post for the attack in the extreme eastern portion of Inchy within 400 yards of the enemy outpost line, and occupied this position during the night, despite a heavy high explosive and gas bombardment, in order to be as close as possible to the attack.

Captain (acting Major) William Douglas Frew, R.A.M.C.(T.F.), attached 131st Field Ambulance.

For conspicuous gallantry and devotion to duty near Rambouliaux Farm on October 20th, 1918. He was in charge of the bearer subdivision of his ambulance. Although his ambulance car post was heavily shelled he kept it going during the day, supervising the bearing and loading of wounded. He also led parties of bearers through heavy fire along the ravine leading to Montay, getting wounded men through this way to the car post.

Temporary Captain Codanda Madieh Ganapathy, I.M.S., attached Gren. I. A.

On September 20th, 1918, north-east of Selfit, Egypt, he showed great gallantry in attending to the wounded under heavy artillery and machine-gun fire throughout the day, showing a complete disregard of personal danger. To his untiring efforts many men owe their lives.

Temporary Captain George Alexander Conner Gordon, R.A.M.C., attached London Regiment.

For conspicuous gallantry and devotion to duty during operations on September 19th, 1918, near Sivri Tepe, Egypt. As regimental medical officer he attended the wounded throughout the day, often under heavy fire. Though wounded, he continued to carry on until relieved on the morning of September 20th, having covered a distance of over five miles on very rough ground. He set a fine example to those with him.

Temporary Captain Edward Harold Hertslet Granger, R.A.M.C., attached 1st Battalion Leicestershire Regiment.

Throughout the operations, September 18th to 26th, 1918, near Holnon, he was conspicuous for his gallantry and devotion to duty. On September 18th for an hour, during a heavy enemy artillery barrage, he attended to the wounded and assisted them to a place of safety. On September 19th he established an advanced aid post and attended to the severe and urgent cases throughout the day under heavy shell fire.

Temporary Captain Zachariah Albert Green, R.A.M.C., attached 7th Battalion Wiltshire Regiment.

For great gallantry and devotion to duty during operations south of Le Cateau on October 18th and 19th, 1918. He continuously attended to wounded with the greatest skill and devotion to duty, and on several occasions under very heavy shell fire. His untiring energy, coolness, and total disregard of danger were admirable throughout.

Temporary Captain Alfred Purvis Hart, No. 2 Field Ambulance, R.A.M.C.

For great initiative, gallantry, and devotion to duty at the advanced dressing station, east of the church at Rejet-de-Beaulieu, during the exceptionally heavy bombardment on November 4th, 1918. He repeatedly dressed wounded men and superintended the evacuation of casualties even when his dressing station was blown in by shell fire. He undoubtedly saved many lives.

Temporary Lieutenant William Hickey, R.A.M.C., attached 8th Battalion East Surrey Regiment.

For conspicuous gallantry and devotion to duty as battalion medical officer on September 18th, 1918, near Ronssoy. Early in the attack he established his aid post at a main cross road and remained there for several hours under heavy shelling. He then went forward and attended to the wounded in the open wherever he could find them. His devotion to duty saved many lives.

(To be continued.)

The Military Cross has been conferred by Major-General Sir W. E. Ironside, K.C.B.—in pursuance of powers vested in him by His Majesty the King—upon Lieutenant John Morrison, R.A.M.C.(S.R.), for conspicuous gallantry and devotion to duty in North Russia. The following is the official record for which the distinction has been conferred:

He has done exceptional work since joining the battalion. He superintended the successful evacuation of wounded on October 12th, 1918, at Seltso under shell fire, at short notice. He accompanied the attacking forces when Topsa was attacked, and gallantly carried on his work under close enemy fire. By his energy and devotion to duty throughout these operations he was the means of saving many lives.

Foreign Decorations.

The following decorations and medals have been awarded by the Allied Powers for distinguished services rendered during the course of the campaign.

Conferred by the President of the French Republic.

Légion d'Honneur.—Commandeur: Lieut.-General Sir Charles H. Burtchaell, K.C.B., C.M.G., K.H.S.

Croix de Guerre.—Colonel Charles Mackie Begg, C.B., C.M.G., N.Z.M.C. Majors George Waterston Miller, D.S.O., T.D., and George F. Whyte, R.A.M.C.(T.F.). Captain and Brevet Major (acting Lieut.-Colonel) Gilbert Henry Dive, D.S.O., R.A.M.C. Captains Sidney Martin Hattersley, M.C., R.A.M.C., Tom Ramsden Kenworthy, M.C., Herbert B. Pope, M.C., and Frank Wigglesworth, M.C., R.A.M.C.(T.F.). Temporary Captains Arthur Cecil Laing, and Edwin Fitzgerald O'Connor, R.A.M.C.

Ordre du Mérite Agricole.—Officier: Major Arthur Edmund Stewart Irvine, D.S.O., R.A.M.C.

Médaille des Epidémies (d'Or).—Captains Charles Frederick Morris Saint, C.B.E., and Richard Woodward Swayne, O.B.E., R.A.M.C.(T.F.). Temporary Captain William Arthur Anderson, R.A.M.C.

Médaille des Epidémies (en Vermeil).—Captain John Dale, O.B.E., R.A.M.C.(T.F.).

Médaille des Epidémies (en Argent).—Colonel George Dansey-Browning, C.B.E., late R.A.M.C.; Captain and Brevet Major (acting Lieut.-Colonel) Gilbert Henry Dive, D.S.O., R.A.M.C.;

Captain Robert Dunlop Goldie, R.A.M.C.(S.R.); Temporary Captain (acting Major) Thomas Clark Ritchie, O.B.E., R.A.M.C.

Médaille de l'Assistance Publique (en Argent).—Major George Edward Ferguson, R.A.M.C.; Captains Walter Fitzpatrick, R.A.M.C.(T.F.), and Thomas James Kelly, M.C., R.A.M.C.; Temporary Captains Carlyle Aldis, Alexander Baldie, and Henry Charles Semon, R.A.M.C.

Conferred by the King of Hellenes.

Greek Military Cross.—2nd Class: Captain and Brevet Major (acting Lieut.-Colonel) Maurice Joseph Williamson, M.C., R.A.M.C.; Captain (temporary Major) Thomas Henry Peyton, D.S.O., R.A.M.C.(T.F.R.). *3rd Class:* Temporary Captain William Henry Hooton, R.A.M.C.

Conferred by the President of the Portuguese Republic.

Military Order of Aviz.—Grand Officer: Major-General John Joseph Gerrard, C.B., C.M.G. Commander: Colonel Alfred Bertram Soltau, C.M.G., C.B.E., A.M.S.(T.F.); Major John Humphrey Barbour, R.A.M.C.

The distinction awarded to Captain William Grahame Cobb (of Zungeru, Northern Nigeria), in recognition of gallantry and devotion to duty in the field, was the D.S.O., and not a bar to the D.S.O. as stated in our issue of October 19th, 1918.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved in both parts of the examination in Sanitary Science:

M. Avent, A. C. B. Biggs, P. C. P. Cloake, M. E. Delafield, J. A. Doull (Major R.A.M.C.), A. A. Martin, R. W. Meller, A. F. Rook (Captain R.A.F.M.S.), Sir E. N. Thornton, K.B.E. (Lieut.-Colonel S.A.M.C.).

UNIVERSITY OF LONDON.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL.

THE following elections to scholarships, each value £50, have been made:

Pathology and Pharmacology Scholarship, H. A. Osborn; Anatomy and Physiology Scholarship, R. C. Lightwood; Arts Scholarship, A. L. Moorby; Science Scholarship, L. I. Hyder.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examinations indicated:

M.B., CH.B. (M., Materia Medica and Therapeutics; P., Pathology).—W. R. Allan (P.), A. R. Black (P.), A. W. Borland (M.), *A. K. Bowman (M., P.), D. E. Brown (M., P.), D. F. Cappell (M.), T. C. Christie (M., P.), D. F. Craig (M., P.), W. Davie (M., P.), M. Douglas (M.), P. A. Faichney (P.), H. G. Halliday (M.), D. R. Hamilton (M.), J. A. Hamilton (M., P.), G. Harvey (P.), B. Isaacs (M.), L. M. Johnston (P.), W. Jope (M.), W. M. Knox (M.), J. W. M'Conville (P.), W. R. M'Crae (P.), J. A. M'Crossan (P.), F. M'Elwee (M., P.), P. M'K. M'Killop (P.), P. M'Luskie (P.), M. J. Miller (M., P.), J. M. L. Mitchell (M., P.), J. T. Moffat (P.), W. G. Niblock (P.), Tyendra Nath Ray (M.), J. Shulman (P.), A. Smith (M., P.), W. A. M'E. Stewart (M., P.), J. M'L. Strang (M., P.), W. R. P. Templeton (M.), D. W. Tobias (P.), J. W. Walker (M., P.), R. J. Watson (P.), A. F. Whyte (P.), J. H. Wilson (P.), P. A. Wilson (M., P.), W. Wilson (M., P.), J. Young (P.), Alice A. Alexander (M.), Edith A. Allan (M.), Martha L. Anderson (M.), Marion C. Boyd (P.), Muriel J. Brown (M., P.), Catherine M'L. Buchanan (M.), Margaret G. Carrick (M.), Jessie D. Christie (M., P.), Margaret B. C. Craig (M., P.), Isabella C. Darling (P.), Margaret Davidson (M.), Vina C. MacK. Donaldson (M., P.), Christian D. H. Eason (P.), Mary A. Grant (P.), Beryl Grieve (P.), Mary Hendrie (M., P.), Nora G. Henry (M., P.), Isobel R. Hill (P.), Jane S. Knight (M., P.), Frances B. C. Livingston (M., P.), Moira E. N. MacAlpine (M.), Janet S. S. MacKay (M.), Mary M'Quaker (M.), Laura M. D. Mill (M.), Elizabeth W. Miller (M.), Edith M. Neilson (M., P.), Catherine A. B. Pettigrew (M.), Annie G. Pollock (P.), Joanna T. Rae (M.), Annabella A. Reid (P.), Isobel Reid (M.), Rebecca E. Roulston (M.), Isobel M. Smith (M., P.), Margaret Sproul (M.), Helen Y. Stoddart (P.), Janette R. Wilson (P.), Jeanie L. D. Wilson (M.), Grace M. Young (M., P.).

(*Old Regulations*).—D. S. Buchanan (M.), J. A. F. Gibson (M.), D. M. Macmillan (P.).

(*Medical Jurisprudence and Public Health*).—A. P. Agnew, A. G. Aitken, J. L. Anderson, J. Baird, B. Barrowman, A. M. Beaton, M. Brown, A. Campbell, J. G. Campbell, A. J. Cronin, D. R. F. Davidson, W. N. Duguid, W. J. Ferguson, R. Fletcher, J. Frew, W. A. Galbraith, R. MacI. Gardner, F. D. Gillespie, R. D. Gillespie, C. Glen, C. N. Gordon, A. Gray, J. L. Halliday, T. O. Howie, J. Hurwich, T. T. Hutchison, G. Jamieson, W. L. Kennedy, W. M. Knox, B. Levine, A. L. M'Adam, H. J. Macbride, A. M. M'Clure, J. Macdonald, E. Macfarlane, J. Macfarlane, S. W. M'Ghee, D. L. Macintyre, W. M'Kendrick, K. MacKenzie, H. H. MacKinnon, A. H. M'Lean, A. MacLean, J. P. M'Millan, P. MacMurray, J. C. M'Naught, A. M'C. Macqueen, M. F. G. Main, A. Markson, C. Melville, G. A. Mitchell, L. Mitchell, N. M'E. Montgomery, G. W. Murray, G. Paterson, J. Paterson, W. J. Payne, J. Prentice, D. Reid, J. Reid, K. M. Rodger, J. Sachs, T. S. Sargent, W. H. Scott, H. E. Seiler, J. Shanks, A. W. Sinclair, L. Sive, A. G. Smith, D. C. Smith, F. C. Speechly, J. Stirling, H. A. Summers, C. N. Temple, J. N. Tennant, G. Tudhope, J. R. Turner, J. D. Whiteford, G. S. Wilson, †J. Wyllie, Annie M. Alexander, Marion B. Armstrong, Muriel C. S. Balfour, Margaret Bennett, Margaret W. Blackwood, Lillias E. B. Buchanan, Edith M. Davidson, Simonne Denil, Elsie F. Farquharson, Christian M. Fleming, Agnes M. Gibson, Margaret E. Gibson, Agnes S. Glover, Mary B. Grant, Margaret Gray, Isabel E. R. Jeffrey, Margaret L. Johnston, Anne T. Kelloe, Jane C. MacDonald, Mary J. Macfarlane, Jean MacI. Mackintosh, Alexandrena M. Maclennan, Marie J. M'Naught, Marjorie Mitchell, Janet D. Montgomery, Mary Russell, Marguerita L. Sclanders, †Cecilia Shiskin, Mary Shiskin, Alexandra W. Smyllie, Mary Stevin, Christina S. Stoddart, Margaret M. Stuart, Dorothy M. Summers, Helen B. Sutherland, Dorothy B. Thomson, Mary C. Walker, Lilian J. T. White, Mary L. Wilson, Helen F. Wingate, Agnes H. M. Young, Elizabeth Young.

(*Old Regulations.*)—J. B. Sweet, R. R. Waters, R. H. Williamson.

* With distinction in Materia Medica and Therapeutics.
† With distinction in Medical Jurisprudence and Public Health.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.

THE following have, after examination, been admitted Fellows: R. A. Barlow, J. D. Brownlie, D. K. Henderson, J. B. M'Dougall, A. Patrick.

Obituary.

J. P. GREANY, M.D., M.CH.R.U.I., Surgeon-General, I.M.S. (ret.).

SURGEON-GENERAL JOHN PHILIP GREANY, Bombay Medical Service (ret.), died at Ealing on October 7th, aged 68. He was born on July 21st, 1851, educated at Queen's College, Cork, and graduated M.D. and M.Ch. in the Queen's University, Ireland, in 1874. Entering the I.M.S. as surgeon on March 31st, 1875, he became surgeon-major on March 31st, 1887, surgeon lieutenant-colonel on March 31st, 1895, colonel on January 11th, 1903, and surgeon-general on June 20th, 1905, retiring on October 1st, 1908. After ten years' service in the army, he entered civil employment in July, 1886. For several years he was civil surgeon of Poona, the most popular station in the Western Presidency. On promotion to the administrative grade he served as A.M.O. of the Aden district and Sind district successively, till he was appointed head of the Bombay service as surgeon-general with the Government of Bombay. He received a good service pension on May 22nd, 1907.

On his retirement he settled at Ealing, and showed an active interest in the work of the British Medical Association. He was formerly a member of the Council of the Metropolitan Counties Branch, the representative of the Indian Medical Service on the Central Council, and chairman of the Naval and Military Committee of the Association. At the beginning of the late war he was for some time in charge of the military hospital at Southall, but had been ill for a long time past, having never recovered from the shock caused by the death of his elder son, the late Captain J. W. Greany, of the 5th Battalion Wiltshire Regiment, who, after distinguished service with his regiment in Gallipoli, where he gained the D.S.O., was transferred to Mesopotamia, and reported wounded and missing in the unsuccessful attempt to relieve Kut on April 9th, 1916, and not heard of again.

DR. SAMUEL WRIGHT died at Portrush on September 19th. He studied at Queen's University, Belfast, and qualified in 1913; he served as house-surgeon in the Grimsby Hospital, and subsequently as assistant school medical officer of the Birmingham Education Committee. On the outbreak of war he volunteered for service, and did heavy work in different parts of the Western front. At Neuve Chapelle he sustained an injury to the heart, but, though he never fully regained his health, he remained in the service till 1918. On returning home he rallied and took the D.P.H. Belfast, but his health broke down again. Much sympathy is felt for his widow by a large circle of friends.

CAPTAIN CHARLES NEWBERRY COBBETT, R.A.M.C., died suddenly at Broadstone, Dorset, on October 7th, aged 58. He was educated at University College, London, and at Edinburgh University, where he graduated M.B. and C.M. in 1883, and M.D., with commendation for his thesis, in 1890. Before the war he was in practice at Edmonton, Alberta, Canada. He took a temporary commission as lieutenant in the R.A.M.C. on June 28th, 1915, and was promoted to captain after a year's service. He was recently employed under the Ministry of Munitions.

Dr. Francisco Zayas y Jiménez, a leading physician of Havana, died in May last at the age of 93. He was well known as a writer and had gained a considerable reputation as a poet. He was also an active politician and was a member of the Cabinet formed by Spain in the last days of its rule in Cuba. He also took an interest in agriculture, especially in tobacco and sugar planting.

Medical News.

Sir George Newman has been nominated by His Majesty, with the advice of the Privy Council, a member of the General Medical Council in the place of Sir Arthur Newsholme resigned.

The St. Thomas's Hospital old students' dinner, postponed from October 1st, will take place at the Connaught Rooms, Great Queen Street, W.C., on Wednesday, January 14th, 1920. The chair will be taken by Sir George H. Makins, G.C.M.G., C.B., President of the Royal College of Surgeons of England.

The University College Hospital old students' dinner, postponed from October 3rd, will be held on Friday, October 31st, at the Imperial Restaurant, Regent Street, at 7 for 7.30.

At the Bootle Borough Court on October 7th a prosecution was instituted under the Venereal Diseases Act, 1917. The defendant, according to the report in the *Bootle Times*, was Miller Murray, of the Knowsley Medical Hall. The charge against him was that, not being a duly qualified medical practitioner, he unlawfully treated for reward a person suffering from venereal disease. Dr. W. N. Clemmey, medical officer of the venereal disease clinic at the Borough Hospital, said that the patient had got into a very serious state by the time he arrived at the hospital and an operation was necessary. The defendant denied that he had treated the person for venereal disease. The chairman said that the bench considered the case proved, but in view of the fact that it was the first brought under the Act in Bootle, a penalty of about one-fourth of the maximum would be imposed. The judgement was that the defendant should pay a fine of £20, or go to prison for three months. On an appeal from the defendant he was allowed fourteen days within which to find the money.

Hitherto local libraries have scarcely justified the enthusiasms of their early promoters, but, if the ideals of the new School of Librarianship—the first attached to any university in this country, which has just been established at University College, London—are fulfilled, the library will be no longer a mere distributing centre for lighter reading, but a focus of the intellectual life of the community. Sir Frederic Kenyon, the director and principal librarian of the British Museum, who opened the school on October 8th, impressed upon its sixty or seventy students the principle that librarianship should not be thought of in terms of shelves and indicators, but should be regarded as public service—very valuable public service, in view of the passing of political power to large numbers of only partially educated people, who may be saved from many mistakes in the use of that power through having access to a library with its works on history and political economy, to mention only two subjects. Sir Frederic deplored, not the lack of knowledge, but the lack of respect for knowledge among the official classes. He himself had heard a Cabinet Minister in a laughing and not at all in a penitent way confess himself a Philistine in matters of education. But the speaker found encouragement in the fact that the younger and more progressive leaders of industry were realizing that expenditure on education might be as profitable as any of the other expenditures which figured on their balance sheet. He paid a tribute to the Library Association for the part it had taken in bringing about the foundation of the school, and in particular to Sir John MacAlister, the president of the association, who is consulting librarian to the Royal Society of Medicine.

The London County Council has decided to approach the Minister of Health with a view to securing representation on the Central Midwives Board. It has been proposed that the number of members of the board shall be increased from nine to twelve. The present representation of the Royal British Nurses' Association will cease, and members will be appointed, one each by the Minister of Health, the Incorporated Midwives' Institute, the Association of Municipal Corporations, and the Society of Medical Officers of Health.

Mr. Arthur Douglas Cowburn, M.R.C.S., L.R.C.P., barrister-at-law, has been appointed deputy coroner for the Western District of London.

Dr. J. S. Crone, J.P., deputy coroner for West Middlesex, has been elected president of the Irish Literary Society, London.

Dr. T. N. Kelynack has been appointed by the Lord Chancellor to the Commission of the Peace for the county of London.

The London County Council has recommended Mr. J. P. Orr, C.S.I., formerly chairman of the City of Bombay Improvement Trust, to be Director of Housing, at a salary of £2,000 a year.

Among the names added to the Commission of the Peace for the County of Banff are those of Dr. E. I. Spriggs of Duff House, Dr. McArthur of Gardenstown, Dr. Andrew Brown Murray of Banff, and Dr. Reid of Portsoy.

It is estimated that there are 1,200 stammering children in attendance at London elementary schools. An experimental class for treatment has proved successful, and the London County Council now proposes to form five classes, each of twenty children.

The King has accepted a copy of the memoir of the late Captain William Howard Lister, D.S.O., M.C., R.A.M.C., written by Dr. Walter Seton. It has been privately printed by the Medici Society, and copies are obtainable from the senior clerk, University College, London.

A general meeting of the Medical Officers of Schools Association will be held at 11, Chandos Street, on Friday next, October 24th, at 4.30 p.m., when Dr. A. A. Mumford will read a paper on the standardizing of physical efficiency during growth, and a discussion on the subject will be opened by Colonel Martin Flack, R.A.F.

The Association of Infant Welfare and Maternity Centres has arranged a conference of medical officers of such centres to discuss the feeding of infants and young children in view of the shortage and high price of cow's milk, with special reference to the use of dried milk and patent foods. It will be held at Bedford College for Women, Regent's Park, N.W., on Friday next, October 24th, at 6 p.m.

The Ministry of Health has issued a circular to local authorities calling their attention to the obligation upon them to make a survey of their district, and to prepare and submit to the Ministry a scheme for the exercise of their powers. The Ministry has also issued a statement showing briefly the principal provisions of the new Act and indicating the increased responsibilities of local authorities in the matter of housing.

The Enham Village Centre, established by the Village Centres Council, of whose executive committee Lord Henry Cavendish Bentinck, M.P., is chairman, will be opened by the Minister of Pensions on Wednesday, October 29th. Enham is near Andover, and the village centre received its first patients last May. It comprises a medical block, workshops and gardens, where now nearly one hundred disabled men are undergoing treatment and training.

The late Dr. F. J. Smith, physican to the London Hospital, left £11,960. Dr. Thomas Torkington Blease of Altrincham left £82,819.

At a meeting of the London Association of the Medical Women's Federation, held on October 7th, at 11, Chandos Street, Mrs. Flemming, M.D., was elected president for the ensuing year and gave an address on "The future of the association." She referred to some of the work done by the London Association in the past and discussed the need for its continuing existence. In four years' time the number of medical women would be doubled and increasing numbers would increase the need for association and union among them. Women were favourably placed in two ways—first, in that their practice was, as a rule, narrowed and chiefly or solely concerned with women and children. A stream was kept in a narrow channel when required to do work, and the very fact of their observation being directed to one part of the community should enable women in the end to achieve more. The second way was that in this association women were connected with those practising on different lines, while other medical societies often included only those practising along one line. The association had in the past done some work in the investigation of subjects such as menstruation and the menopause, but the results would be wider when their numbers increased and all medical women gave their best. All scientific discoveries took place by many pressing forwards, each with a little more vision until a great mind received sudden illumination which then enabled all to move forward with a long stride.

Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

QUERIES AND ANSWERS.

SCHOOLBOYS' WEIGHT.

DR. ROBERT E. LORD (Colwyn Bay) sends the following statistics of the weight of schoolboys during term. They relate to a school composed almost entirely of boarders, with a few day boarders, and concern merely one term of the year, which happens to be the healthiest term but also that for examinations.

Weights of 183 Schoolboys at Beginning and End of Summer Term 1919.

Form.	Number Recorded.	Stationary.	Gained Weight.		Lost Weight.	
			No.	Average Gain.	No.	Average Loss.
				lb. oz.		lb. oz.
VI	12	1	6	2 11	5	2 5
VA	20	0	8	1 7	12	2 10
VB	28	1	13	2 13	14	2 3
Shell	16	0	9	3 5	7	2 3
Remove ...	20	0	16	2 6	4	1 11
IVA	26	2	8	1 14	16	2 8
IVB	24	2	14	2 7	8	1 12
III	27	2	18	3 6	7	3 1
Preparatory	10	2	3	2 0	5	1 2
	183	10	95	2 10	78	2 4

Looking over the records of my own family for some years past (he continues), I find that my eldest son gained weight in practically every term while he was at a preparatory school and at a public school; my second son lost weight or was stationary every term while at the same preparatory school, and gained weight in every term while at his public school, though playing games hard; my third boy has lost weight during each term at again the same preparatory school, but without loss of health. I think the inconclusiveness of these observations represents very fairly the position of affairs, and I do not think that any rule can be stated.

INCOME TAX.

"T. M." has decided to accept a lump sum of £500 in lieu of claiming an annuity of £50 as compensation for a diminution in the emoluments of his office as a result of a reduction in the area for which he acts as M.O.H.

*** In our opinion no liability to income tax attaches to the £500. The £50 per annum would be liable, because income tax attaches to annuities as such, but the lump sum does not seem to us to constitute an assessable emolument of office. If the office had been swept away entirely there could have been little if any doubt on the point, and the reduction in area seems to be governed by the same principles.

LETTERS, NOTES, ETC.

MEMORIAL TO HUGH OWEN THOMAS.

WE have received from Mr. Paul Bernard Roth a note strongly supporting the suggestion of Sir John MacAlister to issue a complete edition of Hugh Owen Thomas's writings, and offering to guarantee £50. Mr. Roth is good enough also to send some notes on the bibliography of Mr. Thomas's writings, which will be compared with others in our possession.

AN ELDERLY PRIMIPARA.

DR. GEOFFREY PRICE (Kineton, Warwick) informs us that he recently attended in her first confinement a woman aged 42 years and 6 months. The child weighed 10 lb. at birth. Both mother and child are going on well.

REMUNERATION OF PUBLIC HEALTH OFFICIALS.

"BITTEN" writes: The BRITISH MEDICAL JOURNAL has been and still is very effective in keeping the standard of salaries of those engaged in the public health service above a certain minimum, and this prompts me to write urging you to regard a matter affecting very closely the question of remuneration. A point which is apt to be overlooked when a post is advertised is that of "travelling expenses" in connexion with the office. The advertisement usually says "all necessary travelling expenses will be paid" unless in cases where a lump sum is given. The interpretation of the extent of travelling expenses unfortunately seems to vary. In one instance travelling expenses include an amount to cover the cost of meals if these have to be taken in an official's absence from home on duty. In others travelling expenses are simply travelling expenses—cost of transit. Now in these days of high prices, it is no small matter for one with £400 or £500 a year to have to pay 2s. 6d. for lunch or 1s. for tea when out. If he is in lodgings he is paying twice for his meal unless he has made special terms with his landlady. If he is married, he is paying, say, 2s. 6d. for a meal which would not have cost him 2s. 6d. had he been at home. The extra cost to be met by the unfortunate servant in having his lunch out is thus caused entirely by the exigencies of his work. Naturally the location of his work alters circumstances. If he is an officer of a corporation he can usually get home; if of a county, then it is many chances to one that he will be far from home at lunch time. I would make this suggestion, that public authorities should be uniform in this matter. If some can pay 2s. 6d. to 3s. for lunch and 1s. 6d. to 2s. for tea, what is there to hinder others?

*** The point our correspondent makes is worthy of consideration. It is, we believe, the rule that in the military and civil services of the State a subsistence allowance is made.

THE UNASSIGNED INSURED.

"PANEL PRACTITIONER" inquires whether an Insurance Committee or the Commissioners "have, or can assume, legal power to force a panel practitioner to accept an insured person, or to continue to have on his list an objectionable person after due legal notice has been given to an Insurance Committee as to the practitioner's desire to have such insured person removed from his list on January 1st, 1920."

*** Under the Insurance Acts and Regulations both the medical practitioner and the insured person have free choice. The Acts, however, provide that every insured person must have medical attendance, etc. Such being the case, it follows that if, say, a "chronic" is refused by all the practitioners in the area, he would be debarred from a right given him by the Acts. Therefore, in every area there is a scheme for the allocation of unassigned persons (a person refused by a doctor is unassigned until upon a practitioner's list). This scheme is agreed between the Panel Committee and the Insurance Committee, and provides a procedure by which any such person is assigned to some practitioner. There can, therefore, be said to be legal power to force a panel practitioner to accept an insured person. In some areas some practitioners only agree to have a limited list and are thus outside the scheme, and are not liable to have anyone assigned to them. Such practitioners have no share in the money available for the medical benefit of unassigned persons.

TREATMENT OF INOPERABLE CARCINOMA WITH SELENIUM.

DR. E. WATSON-WILLIAMS (Clifton, Bristol) writes: As several inquiries have reached me about the selenium I have been using, the following may be of interest:

Crookes's Laboratories, Limited (22, Chenies Street, W.C.), prepare two forms for intramuscular and intravenous injection respectively. The strength is identical—0.05 per cent.—and the "solution" is isotonized with glucose. The bulk of my observations have been made with the "intramuscular solution," which seems quite harmless and efficacious given intravenously.

The Clin Laboratories, Paris (agents, F. Mertens, 64, Holborn Viaduct, E.C.), have presented me with a quantity for experimental purposes; strength, 0.02 per cent. My experiments do not allow me to compare the two preparations.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 46, 49, 50, 51, 52, and 53 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 47, 48, and 49.

THE appointment of certifying factory surgeon at Tinahely (Wicklow) is vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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Seven lines and under	0 6 0
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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.